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2011 Munitions Executive Summit

“Responsive Munitions Support the U.S. Warfighter: Achieving Efficiencies in an Uncertain Budget Environment”

Tampa, FL
February 2 - 4, 2011

Conference Brochure

Agenda

WEDNESDAY, FEBRUARY 3, 2011

US Government Keynote

- ***LTG William Phillips, USA, ASAALT Military Deputy***

Industry Keynote Address

- ***Ms. Karen Davies, President, ATK Armament Systems***

OSD Perspective

- ***Mr. Jose Gonzalez, OSD (AT&L)***

AMMUNITION ENTERPRISE CROSS SERVICE PANEL

- ***BG Jonathan A. Maddux, USA, Program Executive Officer Ammunition***
- ***BG Gustave Perna, USA, Commanding General, Joint Munitions Command***
- ***BGen Francis Kelly Jr., USMC, Commander, Marine Corps System Command***
- ***Maj Gen Andrew Busch, USAF, Commander, Ogden Air Logistics Center, Air Force Materiel Command***
- ***CAPT Jeff Horton, SC, USN, Office of the Executive Director for Conventional Ammunition***
- ***Mr. Barry Pike, Deputy Program Executive Officer Missiles & Space***

US ARMY MUNITIONS REQUIREMENTS

- ***Mr. Don Chrans, G-8***
- ***Mr. Steve Carr, G-4***
- ***Mr. Jeff Brooks, ASA-ALT Ammo DASC***
- ***COL Rick Mason, USA, G-3***

TECHNOLOGY DEMANDS ON THE FUTURE INDUSTRIAL BASE

- *Dr. Gerardo Melendez, ARDEC Technical Director*

THURSDAY, FEBRUARY 4, 2011

ICAP REPORT

- *Mr. Michael S. Wilson*

PM ACQUISITION PANEL

Chair: Mr. Chris Grassano, PEO-Ammunition Chief of Staff

Panelists:

- *Mr. Matthew Zimmerman, Deputy PD Joint Services, PEO Ammunition, Picatinny Arsenal*
- *COL Scott Turner, USA, PM Combat Ammunition Systems*
- *COL Steven Cummings, USA, PM Close Combat Systems*
- *COL Danny Wiley, USA, PM Maneuver Ammunition Systems*
- *COL Victor Rodriguez, USAF, PD Joint Products*

CONGRESSIONAL BUDGET PERSPECTIVE

- *Mr. Dick Ladd, CEO, Robison International*

-

2011 Munitions Executive Summit

**February 2-4, 2011
Grand Hyatt Hotel
Tampa, FL**

Vision

America's leading Defense Industry Association
promoting National Security

Mission

- ADVOCATE: Cutting-edge technology and superior weapons, equipment, training, and support for the War-Fighter and First Responder
- PROMOTE: A vigorous, responsive, Government - Industry National Security Team
- PROVIDE: A legal and ethical forum for exchange of information between Industry and Government on National Security issues

2011 Munitions Executive Summit

February 3, 2011 - Morning

- ☐ **8:00** Welcome/Admin Remarks
Mr. Tim Bagniefski, Chair, Munitions Technology Division, NDIA
MG Barry Bates, USA (Ret), Vice President, Operations, NDIA
- ☐ **8:15** PEO-Ammo Welcome
BG Jonathan Maddux, USA, PEO-Ammunition
- ☐ **8:30** US Government Keynote
LTG William Phillips, USA, ASAALT Military Deputy
- ☐ **9:30** Industry Keynote Address
Ms. Karen Davies, President, ATK Armament Systems
- ☐ **10:15** Break
- ☐ **10:30** OSD Perspective
Mr. Jose Gonzalez, OSD (AT&L)
- ☐ **11:30** MES Awards
- ☐ **11:45** Lunch

2011 Munitions Executive Summit

February 3, 2011 – Afternoon

- ❑ **1:00** Ammunition Enterprise Cross Service Panel
Chair: *BG J. Maddux*
Panelists: *BG G. Perna, BGen F. Kelley, Jr., Maj Gen A. Busch,
CAPT J. Horton, B. Pike*

- ❑ **2:15** DoD Industrial Policy
Mr. Brett Lambert, DUSD, Industrial Policy, OSD (AT&L)

- ❑ **2:45** Break

- ❑ **3:00** U.S. Army Munitions Requirements
COL Rick Mason, G-3
Mr. Don Chrans, G-8
Mr. Jeff Brooks, ASAALT Ammo DASC
Mr. Steve Carr, G-4

- ❑ **4:15** Technology Demands on the Future Industrial Base
Dr. Gerardo Melendez, ARDEC Technical Director

- ❑ **4:45**
- ❑ **5:30** Hosted Grand Reception

2011 Munitions Executive Summit

February 4, 2011

- ☐ **7:45** Administrative Remarks – *T. Bagniefski*
- ☐ **8:00** ICAP Report
Mr. Michael Wilson, President, General Dynamics – OTS
- ☐ **8:15** U.S. Munitions Industrial Complex-Readiness & Resource Issues
Mr. Jyuji Hewitt, Deputy to the CG, Joint Munitions Command
- ☐ **9:00** Program Managers Acquisition Panel
Chair: *Mr. Chris Grassano, PEO-Ammunition Chief of Staff*
Panelists: *M. Zimmerman, COL S. Turner, COL S. Cummings, COL D. Wiley, Col V. Rodriguez*
- ☐ **10:30** Break
- ☐ **10:45** Congressional Budget Perspective
Mr. Dick Ladd, CEO, Robison International
- ☐ **11:30** Closing Remarks / Adjournment

2011 Munitions Executive Summit

SUMMARY

- ☐ Electronic surveys will be sent to your email addresses immediately after this Summit
- ☐ Attendees will be sent a link to the proceedings within two weeks

***Please join us next year!
The 2012 MES will be held
February 27-March 1
in Phoenix
at the Arizona Grand***



MARINE CORPS SYSTEMS COMMAND

EQUIPPING THE WARFIGHTER TO WIN

MUNITIONS EXECUTIVE SUMMIT

Ammunition Enterprise Cross Service Panel

Brigadier General Frank Kelley

Commander, Marine Corps Systems Command

“Achieving Efficiencies in an Uncertain Budget Environment”

3 February, 2011

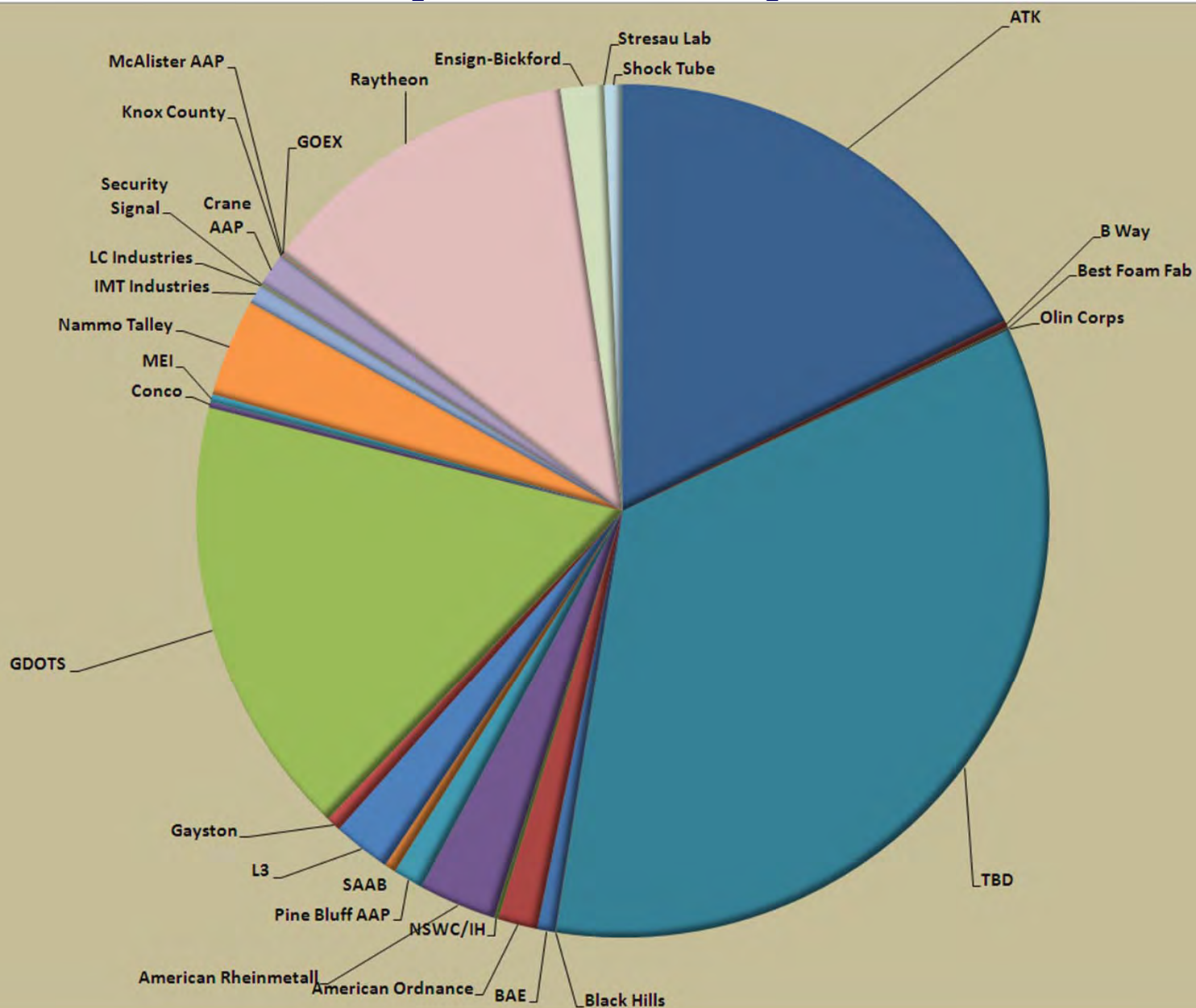


MARINE CORPS SYSTEMS COMMAND

EQUIPPING THE WARFIGHTER TO WIN

**Industry Support
FY11 Supplier Breakout**

Total Production Pipeline: 377 Open Orders @ \$2.3B





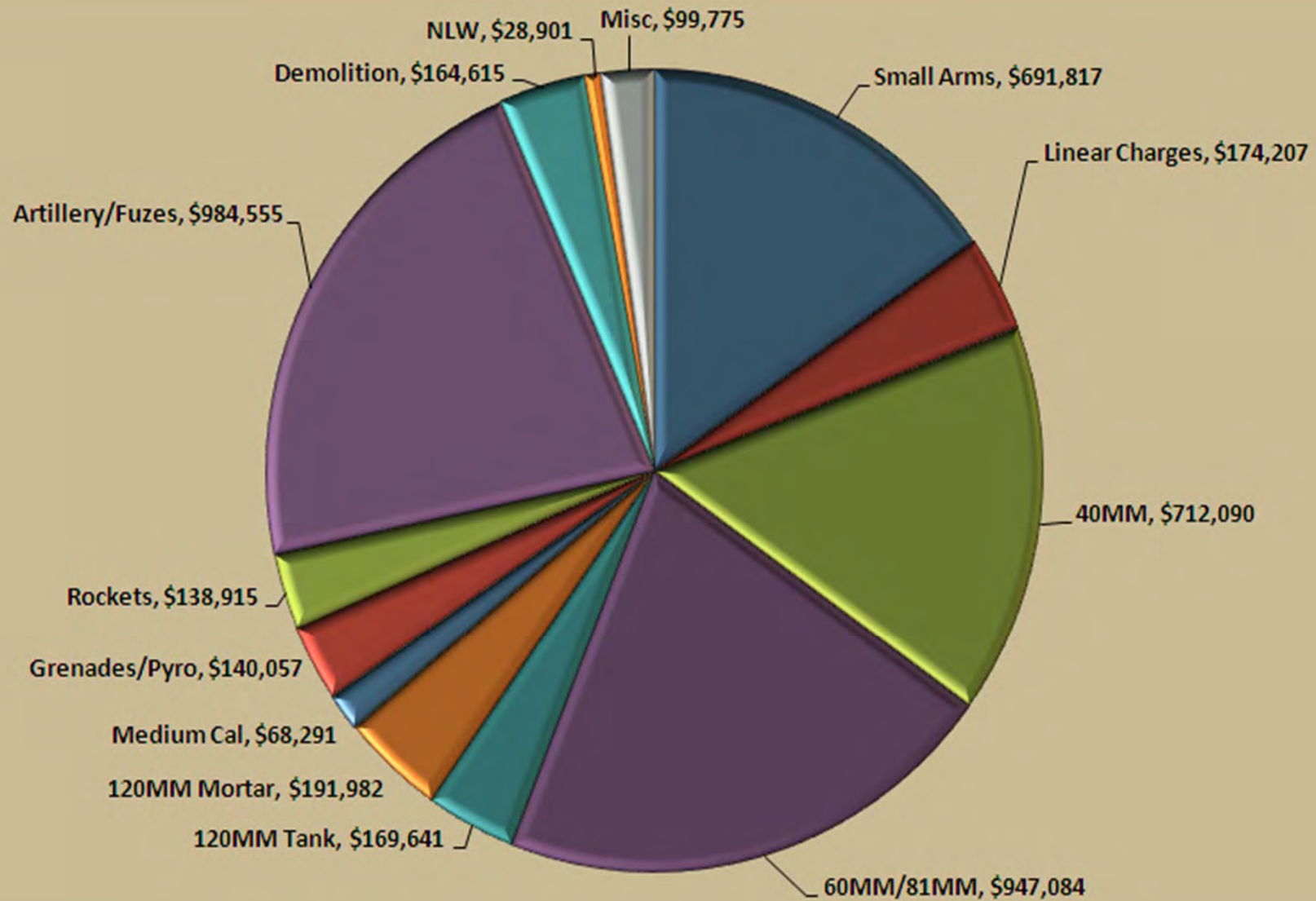
MARINE CORPS SYSTEMS COMMAND

EQUIPPING THE WARFIGHTER TO WIN

Fiscal Landscape

FY11-FY16 Procurement Breakout - \$4.5B

(PRESBUD11 – in millions)



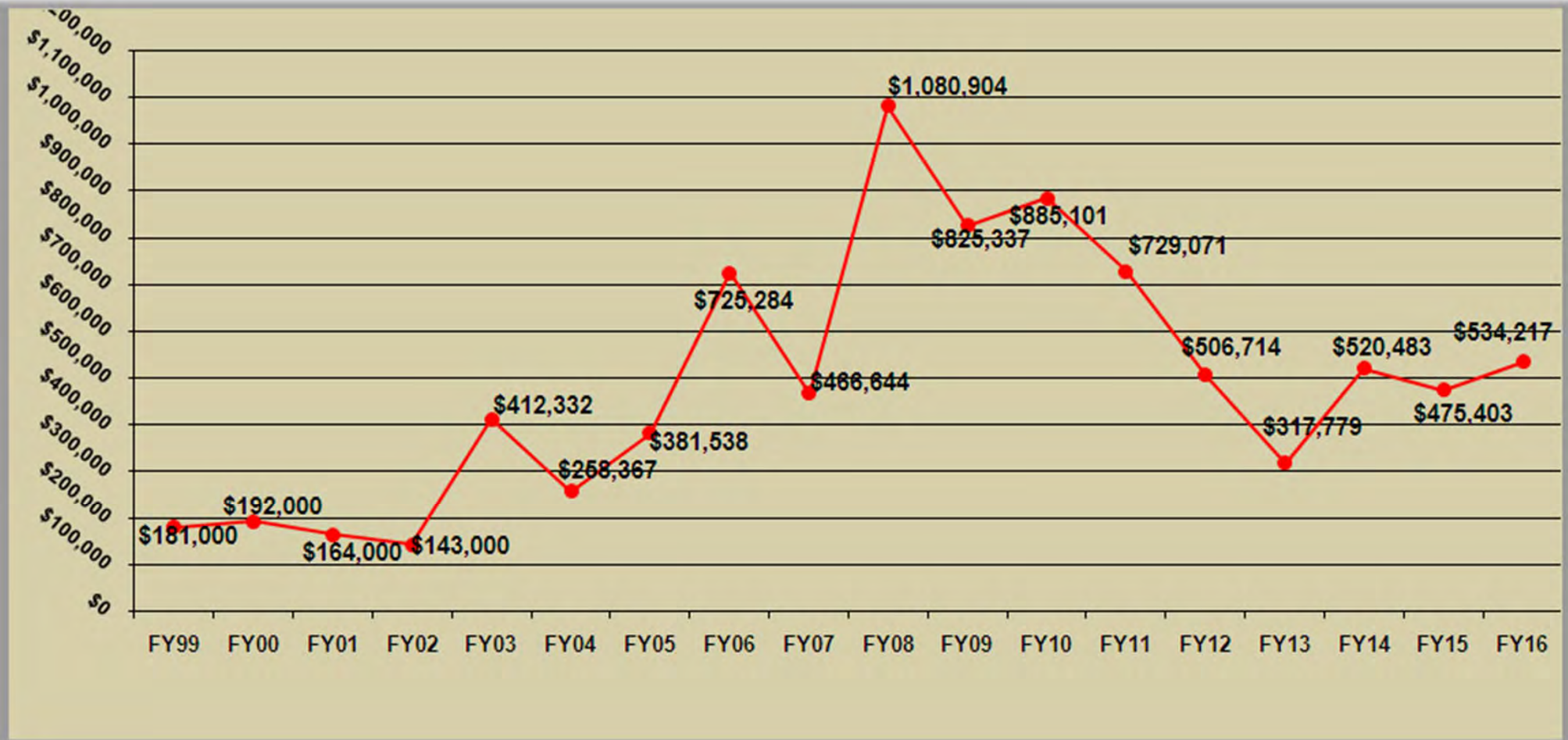


MARINE CORPS SYSTEMS COMMAND

EQUIPPING THE WARFIGHTER TO WIN

Fiscal Landscape

USMC Ammunition Investment (FY99 thru FY16)





MARINE CORPS SYSTEMS COMMAND

EQUIPPING THE WARFIGHTER TO WIN

Procurement Driver

USMC Live Fire Training (FY98 thru FY10)





Defense Secretary Gates' Efficiency Initiatives

“We cannot support our troops with the capabilities they need unless we *achieve greater efficiency*.” - Robert Gates, Secretary of Defense

Better Buying Power: Mandate for Restoring Affordability & Productivity in Defense Spending

Objectives:

“Obtain 2-3% net annual growth in warfighting capabilities without commensurate budget increases by identifying and eliminating unproductive or low-value added overhead and transfer savings to warfighting capabilities.”

“Do more without more.”



Defense Secretary Gates' Efficiency Initiatives

Adopting Government Practices that Encourage Efficiency

- Adopting “Should-Cost” and “Will-Cost”
- Improving Audits
- Mandating Affordability as a Requirement
- Stabilizing Production Rates
- Eliminating Redundancy within Warfighting Portfolios
- Establishing Senior Managers for Procurement of Services
- Protecting the Technology Base





MARINE CORPS SYSTEMS COMMAND

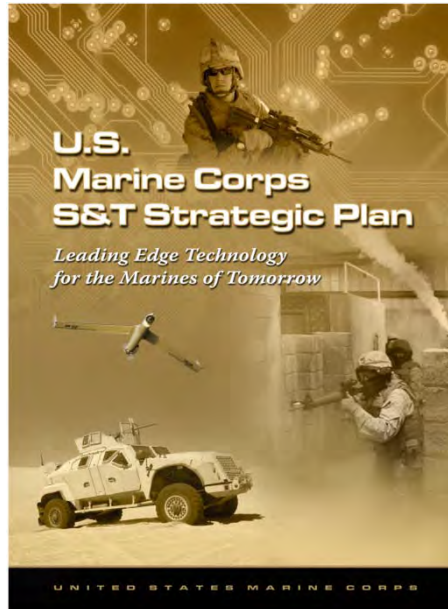
EQUIPPING THE WARFIGHTER TO WIN

Scoping the Future Requirement

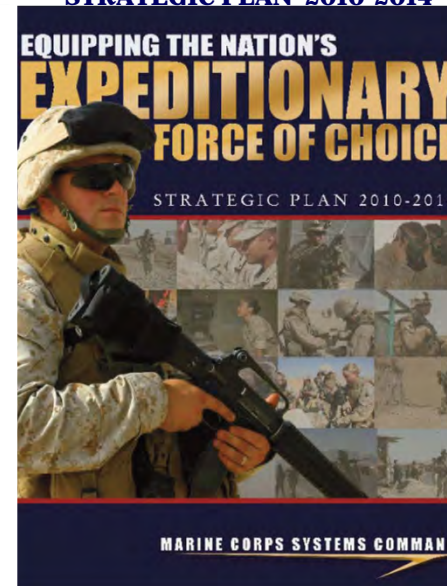
USMC VISION & STRATEGY 2025



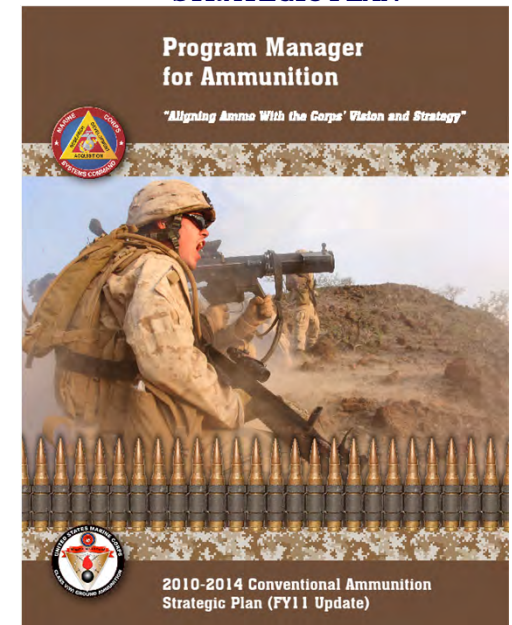
2009 USMC S&T STRATEGIC PLAN



MARINE CORPS SYSTEMS COMMAND STRATEGIC PLAN 2010-2014



PM AMMUNITION 2010-2014 CONVENTIONAL AMMUNITION STRATEGIC PLAN





Marine Corps Vision and Strategy 2025

“We have been prepared in the past because we understood that a force in **readiness** must be **well-trained**, broadly educated, and **properly equipped** for employment across all forms of warfare. We believe the **individual Marine** is the most formidable weapon on today’s battlefield and will remain so tomorrow.”





MARINE CORPS SYSTEMS COMMAND

EQUIPPING THE WARFIGHTER TO WIN

Scoping the Future Requirement

Priorities of the 35th CMC

- We will continue to provide the best trained and equipped Marine units to Afghanistan. This will not change. This remains our top priority!
- We will rebalance our Corps, posture it for the future and aggressively experiment with and implement new capabilities and organizations.
- We will better educate and train our Marines to succeed in distributed operations and increasingly complex environments.
- We will keep faith with our Marines, our Sailors and our families.



MARINE CORPS SYSTEMS COMMAND

EQUIPPING THE WARFIGHTER TO WIN

**Scoping the Future
Requirement**

Will affect the Munitions Industrial Base!

- End of OCO funding – FY03-FY11 \$2.3B
- Force Structure reduction – heavy on trigger pullers
- POM13 Bottoms up review
- Efficiencies will now drive our relationship with the industrial base

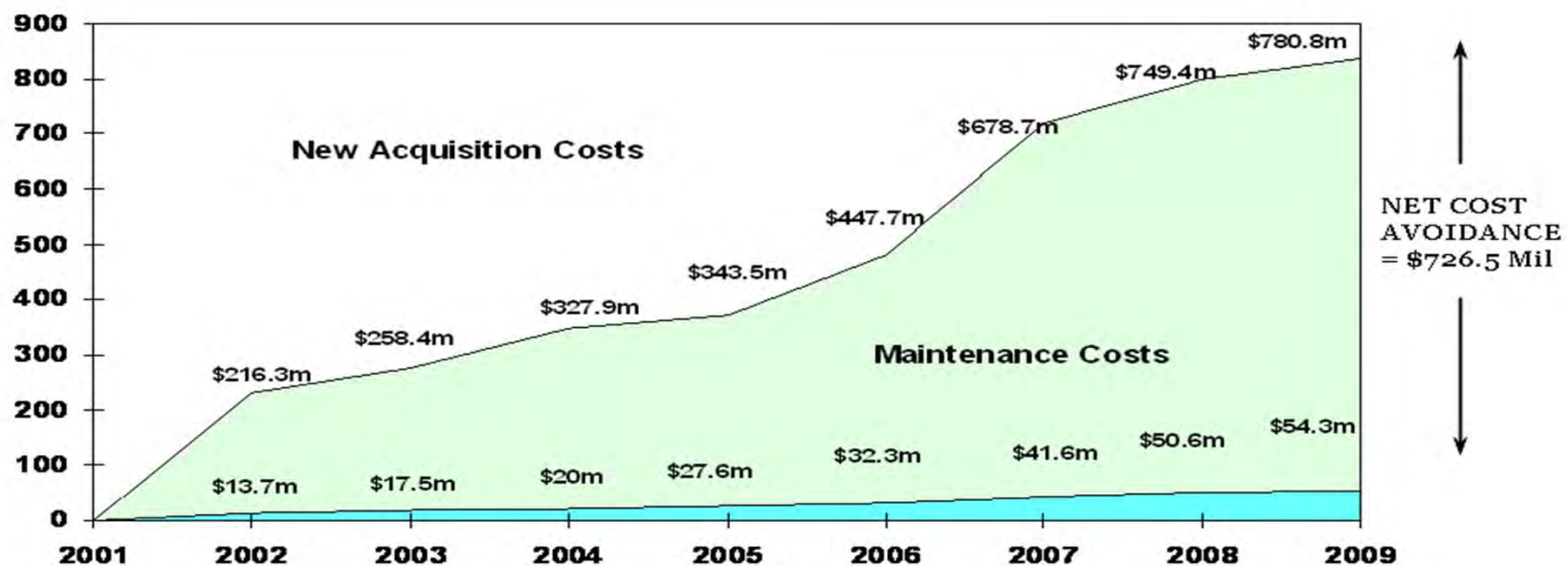


MARINE CORPS SYSTEMS COMMAND

EQUIPPING THE WARFIGHTER TO WIN

USMC Expectations

- Quality is a must - every investment dollar must buy me a dollar
- USMC will continue to align procurement profiles with ALL customers in the best interests of Need first AND industry!
- We have increased investment in our O&MMC account to maintain our inventory (quality, maintenance, rework) – may be a component procurement driver





MARINE CORPS SYSTEMS COMMAND

EQUIPPING THE WARFIGHTER TO WIN

Summary

- Unstable Funding Profiles
- Requirements Fluctuation
- Alignment of Procurements & Requirements
- Joint Ordnance Commanders awareness
- Continued Reliance on Industry
- Single Manager for Conventional Ammunition
- The Key to Success
 - Collaboration
 - Open and frank Communication
 - Reasonable Expectations



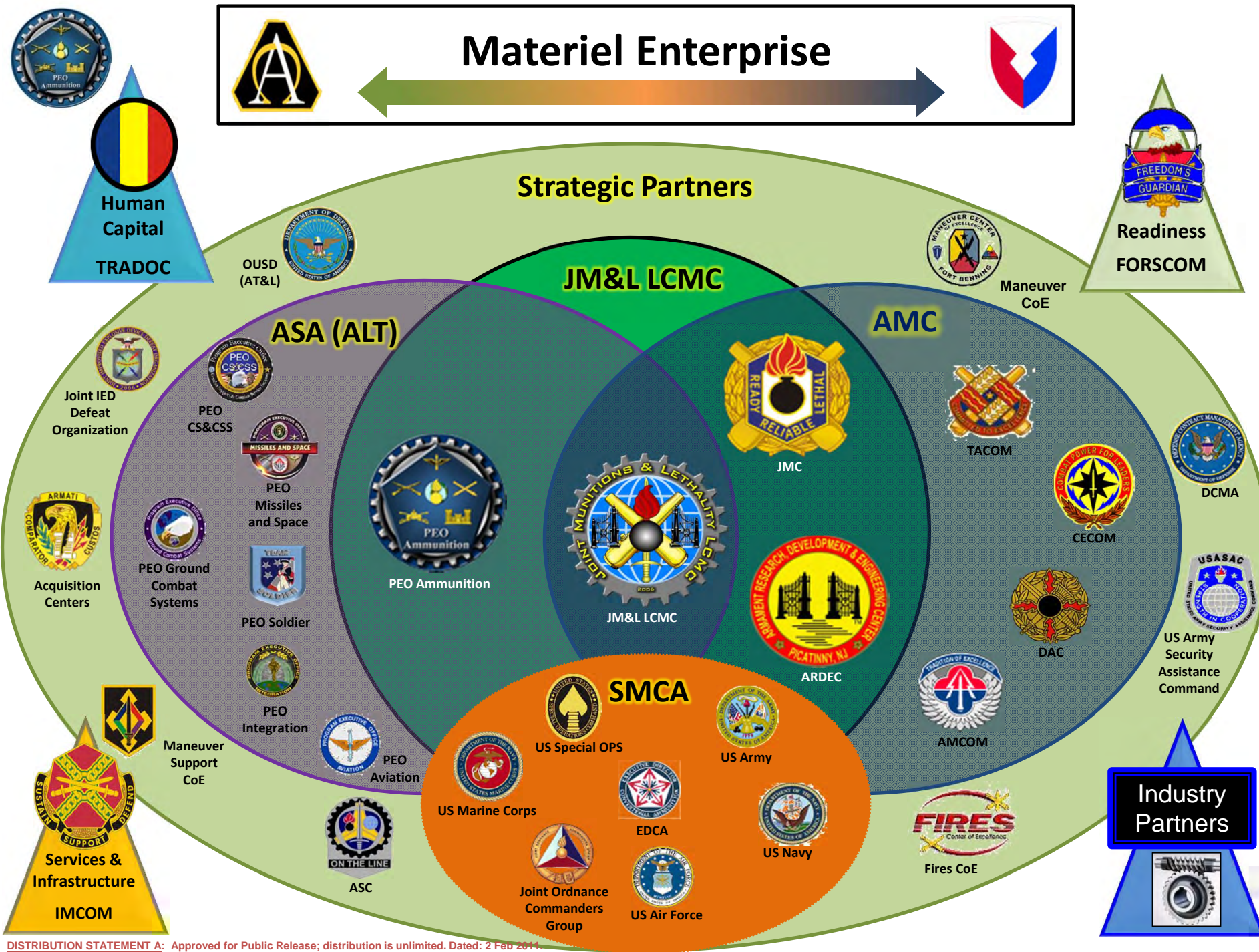
PEO AMMUNITION

**Program Executive Office
Ammunition Overview
February 2011**

**Presented by:
BG Jonathan A. Maddux**

DISTRIBUTION STATEMENT A:
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distribution is unlimited.
Dated: 2 Feb 2011.

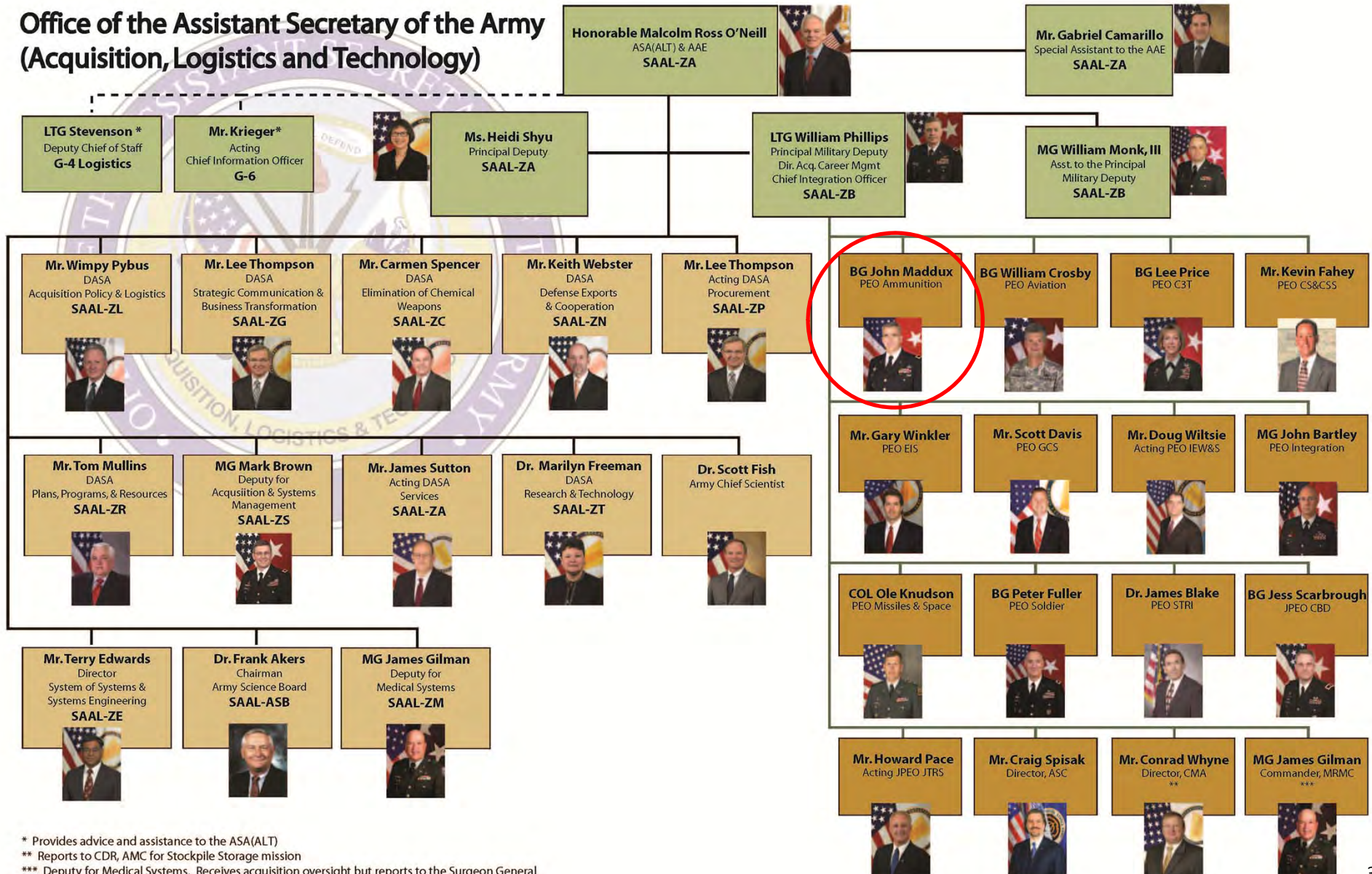






ASA(ALT) Organization

Office of the Assistant Secretary of the Army (Acquisition, Logistics and Technology)



* Provides advice and assistance to the ASA(ALT)

** Reports to CDR, AMC for Stockpile Storage mission

*** Deputy for Medical Systems. Receives acquisition oversight but reports to the Surgeon General

DISTRIBUTION STATEMENT A: Approved for Public Release; distribution is unlimited. Dated: 2 Feb 2011.



PEO Ammunition Organization

**650+ Active Programs
Managed in FY10 –
\$4.7B value**

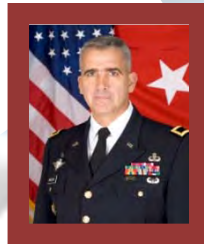


PM CAS Combat Ammunition Systems

Indirect Fire Munitions and Mortar Weapon Systems

- PM Mortars
- PM Excalibur

973-724-2003
john.scott.turner@us.army.mil



PEO Ammunition
973-724-7101
jonathan.maddux@us.army.mil

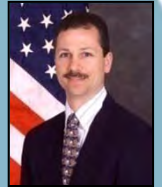


DPEO Ammunition
973-724-7102
james.shields3@us.army.mil



Chief of Staff

- Systems Acquisition
- Business Management
- Human Resources
- International
- CIO



973-724-9382
chris.grassano@us.army.mil



PM CCS Close Combat Systems

Networked Munitions and Force Application Systems

- PM Intelligent Munitions Sys

973-724-7041
steven.f.cummings@us.army.mil



PM TAS Towed Artillery Systems Support Fives for Maneuver forces

- M777 Lightweight Howitzer
- M198 Digitization



973-724-4427
keith.t.gooding@us.army.mil



PM CEH Counter Explosive Hazard

Countermine, Explosive Hazard, and Force Protection Systems

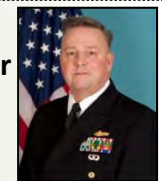
- PM Countermine & EOD
- PM IED Defeat/Protect Force

973-724-XXXX
xxxxxxxxxxxx@us.army.mil



O/EDCA Executive Director Conventional Ammunition

- SMCA Assessment



973-724-3350
jeffrey.horton5@us.army.mil



PM MAS Maneuver Ammunition Systems Direct Fire Munitions

- PM Large Caliber
- PM Small & Medium Caliber
- PD Medium Cannon Caliber
- PD Non-Standard Ammo

973-724-5307
danny.wiley@us.army.mil



PD JS Joint Services

- Ammunition Industrial Base
- Ammunition Logistics
- Technology and Prototyping
- Demilitarization

973-724-5257
jeff.wilson@us.army.mil



PD JP Joint Products

- Navy and Air Force Bombs & Energetics



973-724-6487
Victor.m.rodriguez5@us.army.mil

Be the best provider of conventional and leap-ahead munitions and counter improvised explosive device products by fostering innovation and diversity to increase the combat power of our Warfighters.

Single Manager for Conventional Ammunition



Single Manager Conventional Ammunition (SMCA)

Background

Mission

Objectives

History of the SMCA:

In 1977, the Secretary of Defense assigned the Secretary of the Army as the DoD SMCA with the responsibility for procuring/producing conventional ammunition for all military services in DoD Directive (DODD) 5160.65. On April 16, 2003, this authority was delegated by the Assistant Secretary of the Army (Acquisition, Logistics, and Technology) to PEO Ammunition. Consistent with this delegation, starting in FY04, all SMCA orders are processed through the (PEO) Ammunition.



SMCA Mission:

Manage DoD conventional ammunition, and personnel and training functions (DoDD 5160.65)

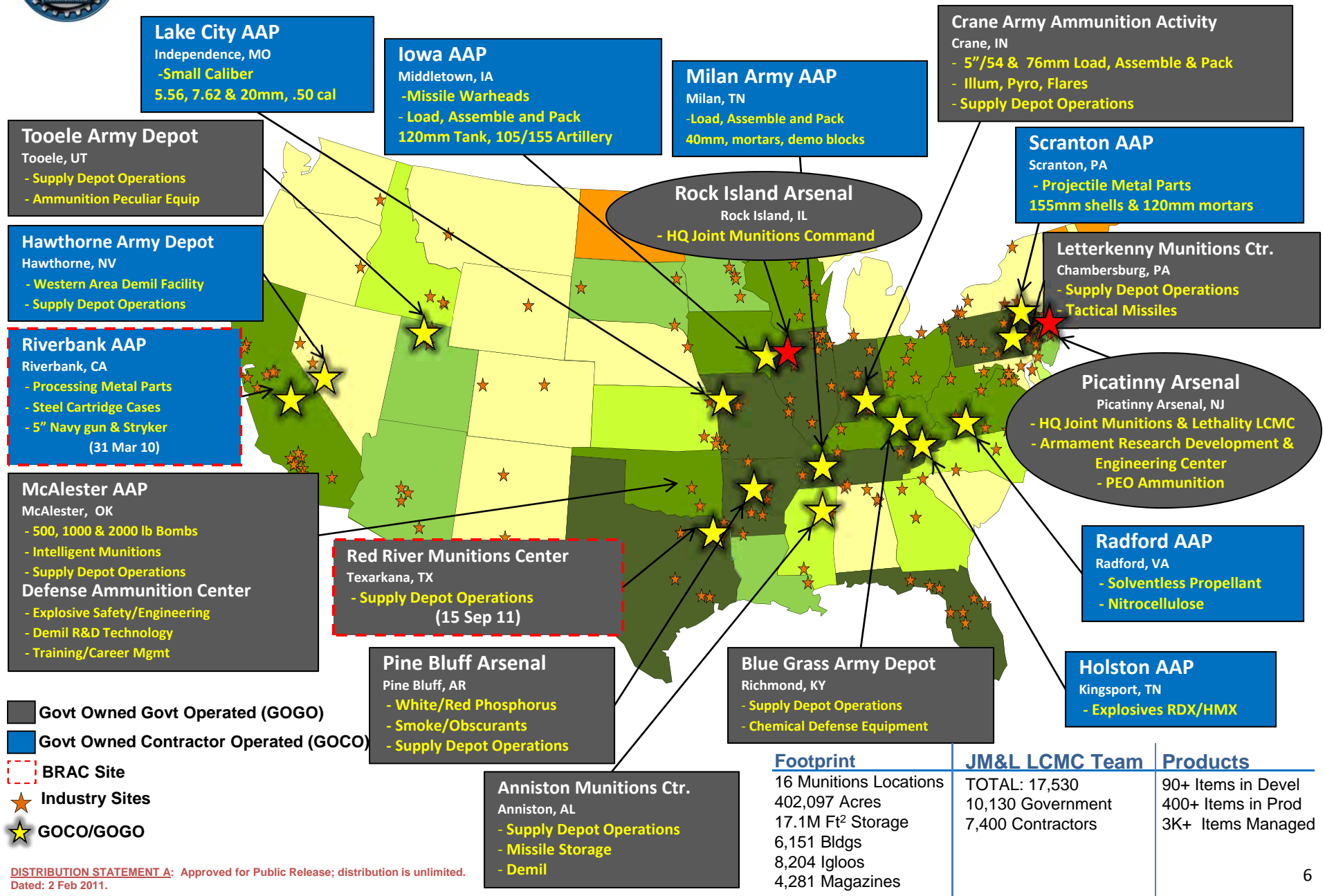


Objectives:

Achieve the highest possible degree of efficiency and effectiveness in the DoD operations required to acquire top quality conventional ammunition for U.S. Forces

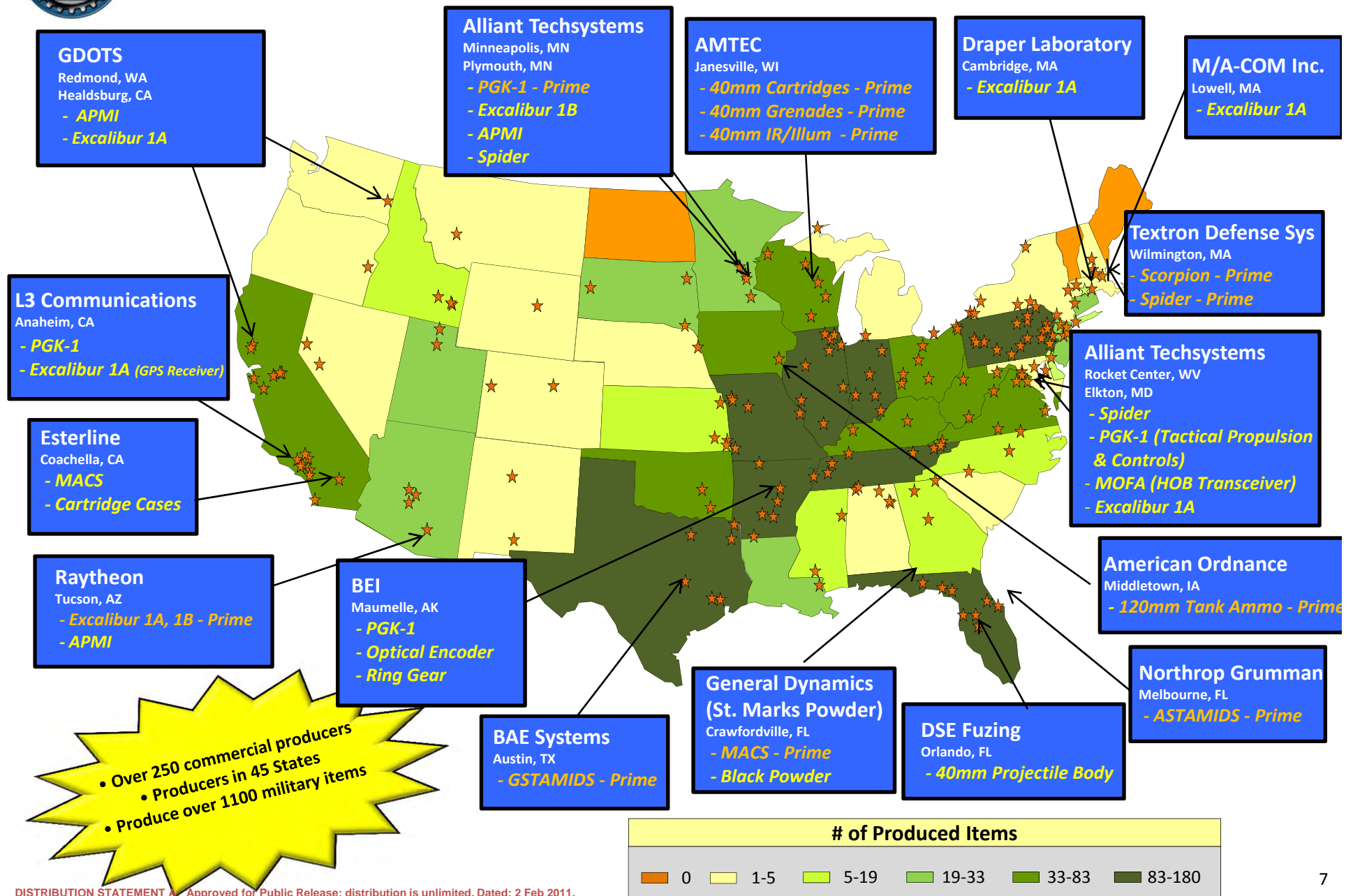


Ammunition Enterprise Footprint





Ammunition Enterprise Industry Partners





- ## Reversing the Trend

- Maximum use of low cost facilities / processes
- Establish production based thinking
- Defend against rising additions
- Reduce secondary cost expenditures (transportation, support, etc)
- 58K tons per year Average demil over last five years (06 - 10) is the average demil tonnage over a period



Outlook/Challenges

- Future Budget/Resource Picture (especially for Ammo)
- Reliance/focus on Joint
- Reliance/focus on FMS
- Implementation of Efficiency Initiatives
- Implications of new policies on technology transfer/FMS



PEO Modernization Strategy

Emerging Technologies Programs (next 5 Years)				Future Trends (5+ years)			
Artillery Munitions and Weapon Systems							
Excalibur Increment 1a-2 & 1b		Precision Guidance Kit I & II		105mm PGM		VAPP	
						M795 Extended Range	DPICM Alternative
Mortar Munitions and Weapon Systems							
MAPAM		Lightweight Mortar Systems		Accelerated Precision Mortars Initiative		Very Affordable Precision Mortar (VAPM)	
							Extended Range Mortar
Direct Fire							
GREM Door Breaching		120MM, Advanced Kinetic Energy		120mm Advanced Multi-purpose (MP) Round		Next Gen Kinetic Energy	
Small & Medium Caliber							
Lead Free Ammo		CCMCK (9mm; M1071)		40mm Pivot Coupling		Lightweight Ammo	
						Dim Trace	
						40mm Non Dud Prod.	
						40mm Airburst	
						30mm M789	
Non-Lethal							
		Non-Lethal Capability Set Improvements Anti Personnel & Anti Vehicle				Individual Non-Lethal System (INS)	
							Dual Mode (Lethal/N-L) Grenade
Close Combat Systems							
AT4CS-TW		Spider Improvements		Individual Assault Munition (IAM)		Next Gen Networked Munitions	
IED Defeat & Counter Mine							
Counterbomber PBIED Detection System		Jackal Passive Infra-red IED Pre-Detonation System		Standoff Explosive Detection		Immediate Substance Identification	
Industrial Base							
New NC Facility Radford AAP		Sm. Cal. Modernization Lake City AAP				Flexible Manufacturing Facility	
Demilitarization							
Disassembly and Energetic Destruction Technologies						Ultrasonic Removal Process	



Joint Warfighter Support



FY08 - FY10 Produced & Delivered to Depot



Small Cal	Med Cal	Large Cal	Mortars	Artillery	Bombs	Flares	Grenades
2,740.7M	41.2M	369K	1.1M	990K	—	1.9M	16.9M
940.0M	10.4M	133K	954K	308K	—	520K	4.0M
264.9M	7.2M	—	—	—	532K	74K	138K
171.0M	24.0M	—	—	94K	167K	7.2M	129K



At the End of the Day...

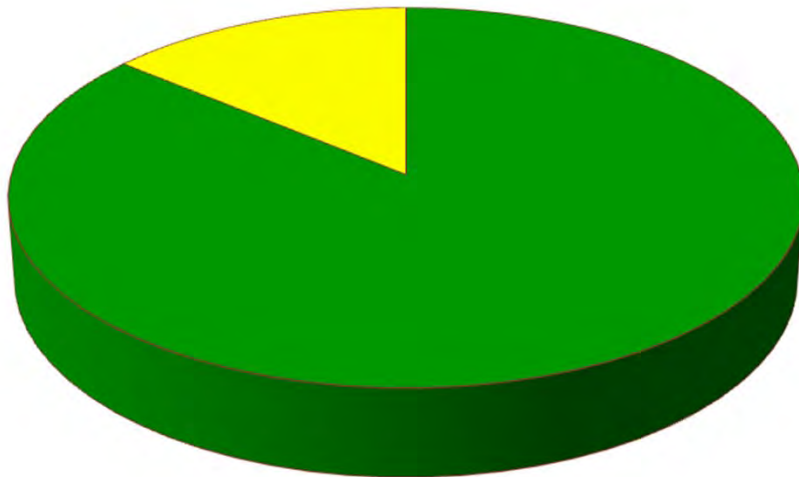


We're Meeting Joint Warfighter's Needs !

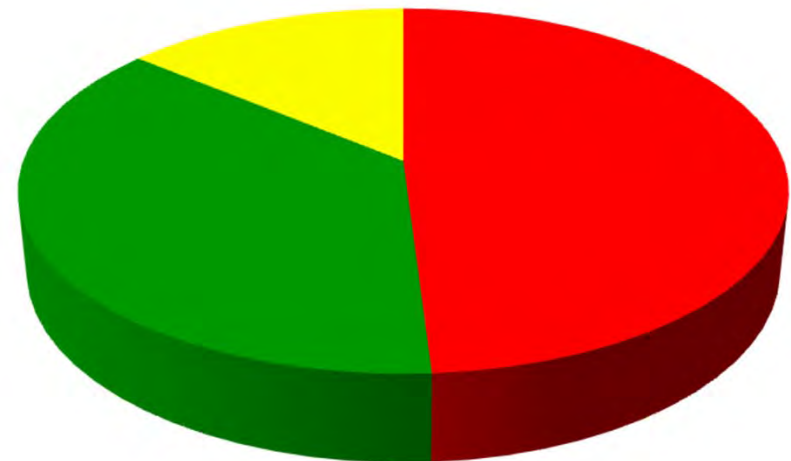


Analysis of Budget Trends

Today



Future



Significantly Impacted Ammunition Families

- Mortars
- Signals
- Fuzes
- Propellant

- Artillery
- Practice Bombs
- CM Flares





US Army Munitions Requirements

-- ASAALT Perspective



2011 NDIA Munitions Executive Summit

February 3, 2011

Jeffrey C. Brooks
Deputy Director for Ammunition
Munitions Systems Directorate
Office of the Assistant Secretary of the Army
Acquisition, Logistics, and Technology
703-604-7212, jeffrey.brooks@us.army.mil

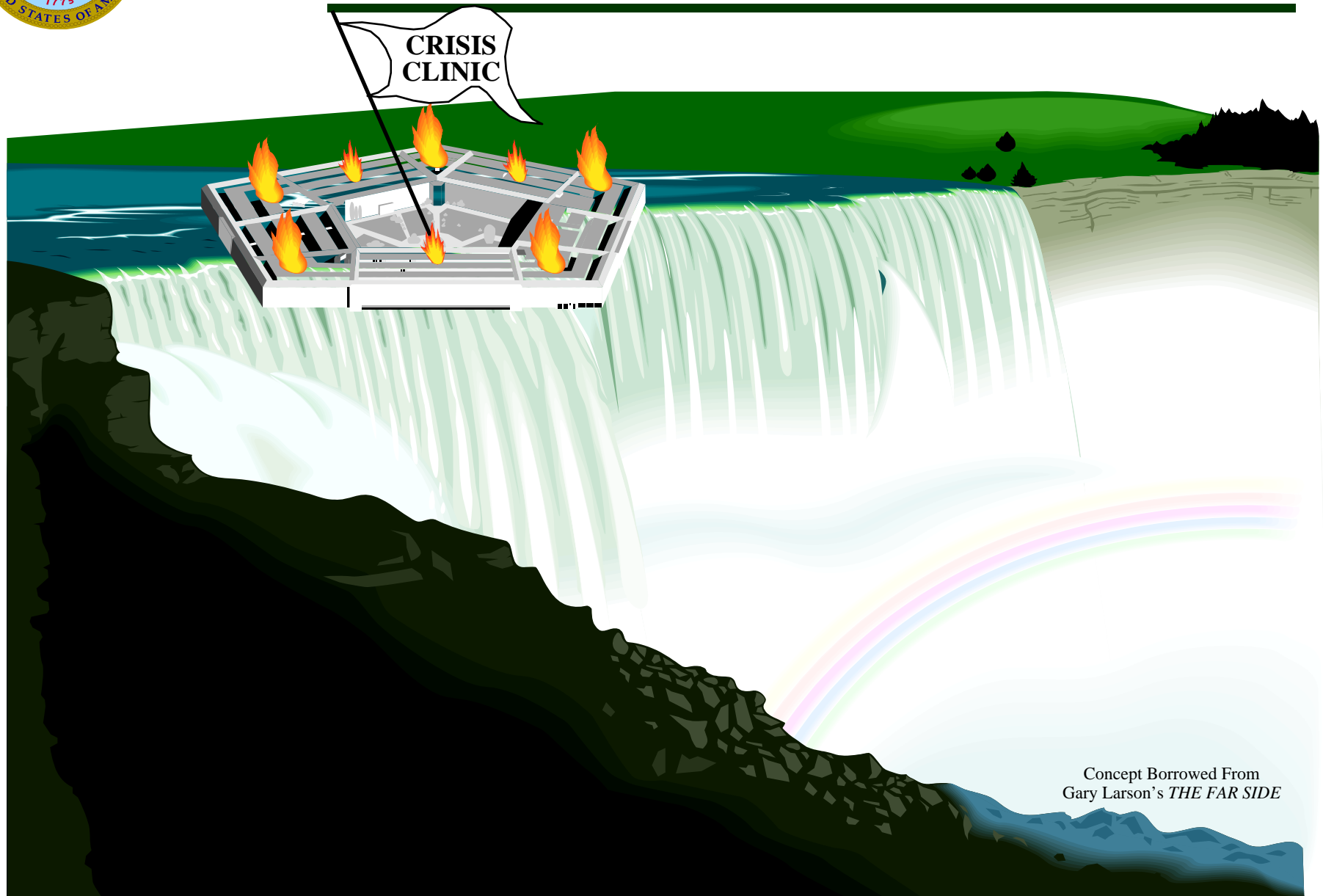




MISSION

**Develop and Procure Conventional and
Leap-Ahead Munitions to Increase
Combat Power to our Warfighters**





Concept Borrowed From
Gary Larson's *THE FAR SIDE*



It's the Budget System - PPBES

Planning – G3

Programming – G8

Budgeting – ABO

Execution – ASAALT & G4

- ✓ Distinct Responsibilities
- ✓ Day-to-Day Interaction & Support

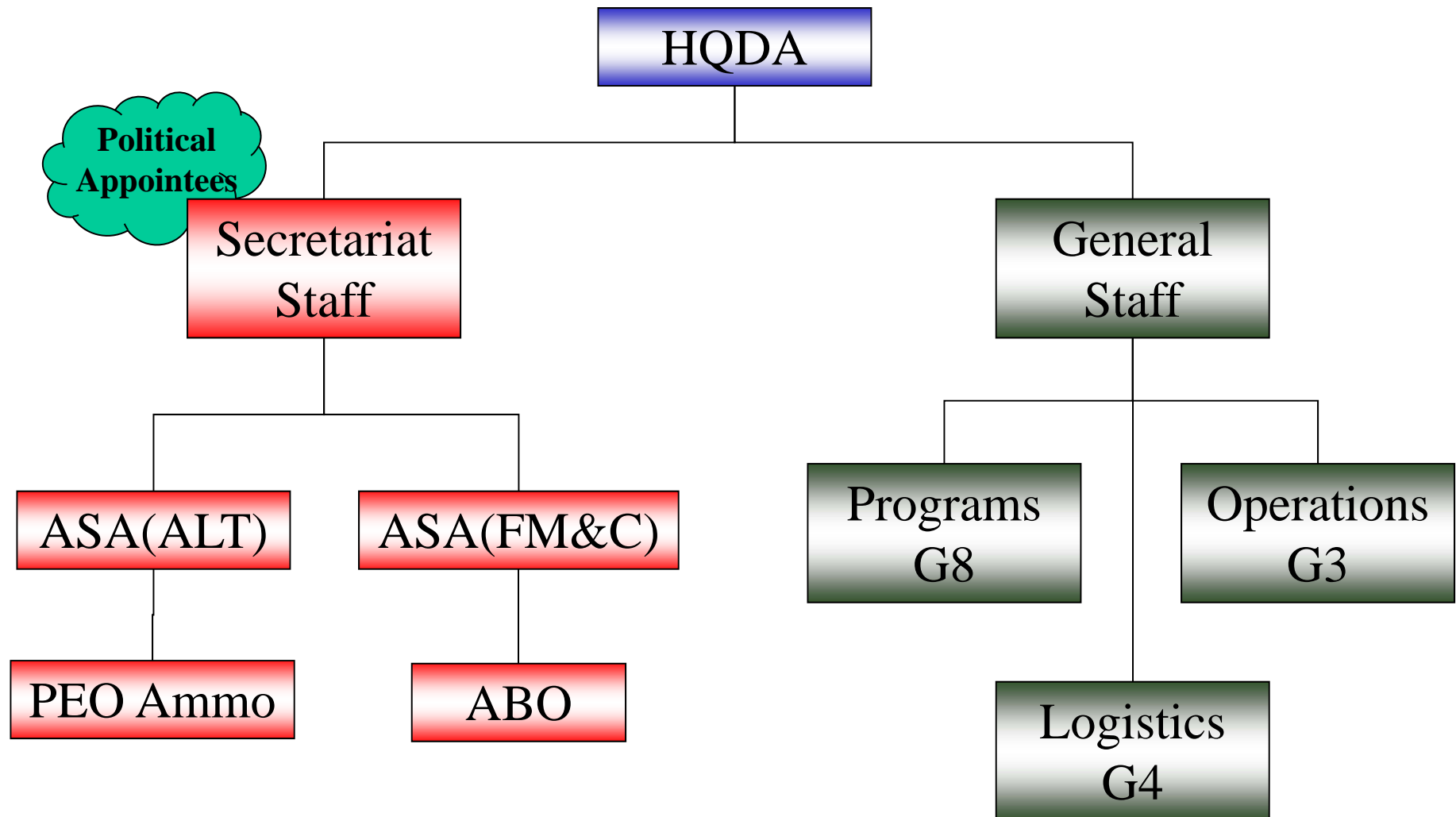


FOCUS ON





HQDA Offices Affecting Ammunition





ASA(ALT)

The Assistant Secretary serves as the:

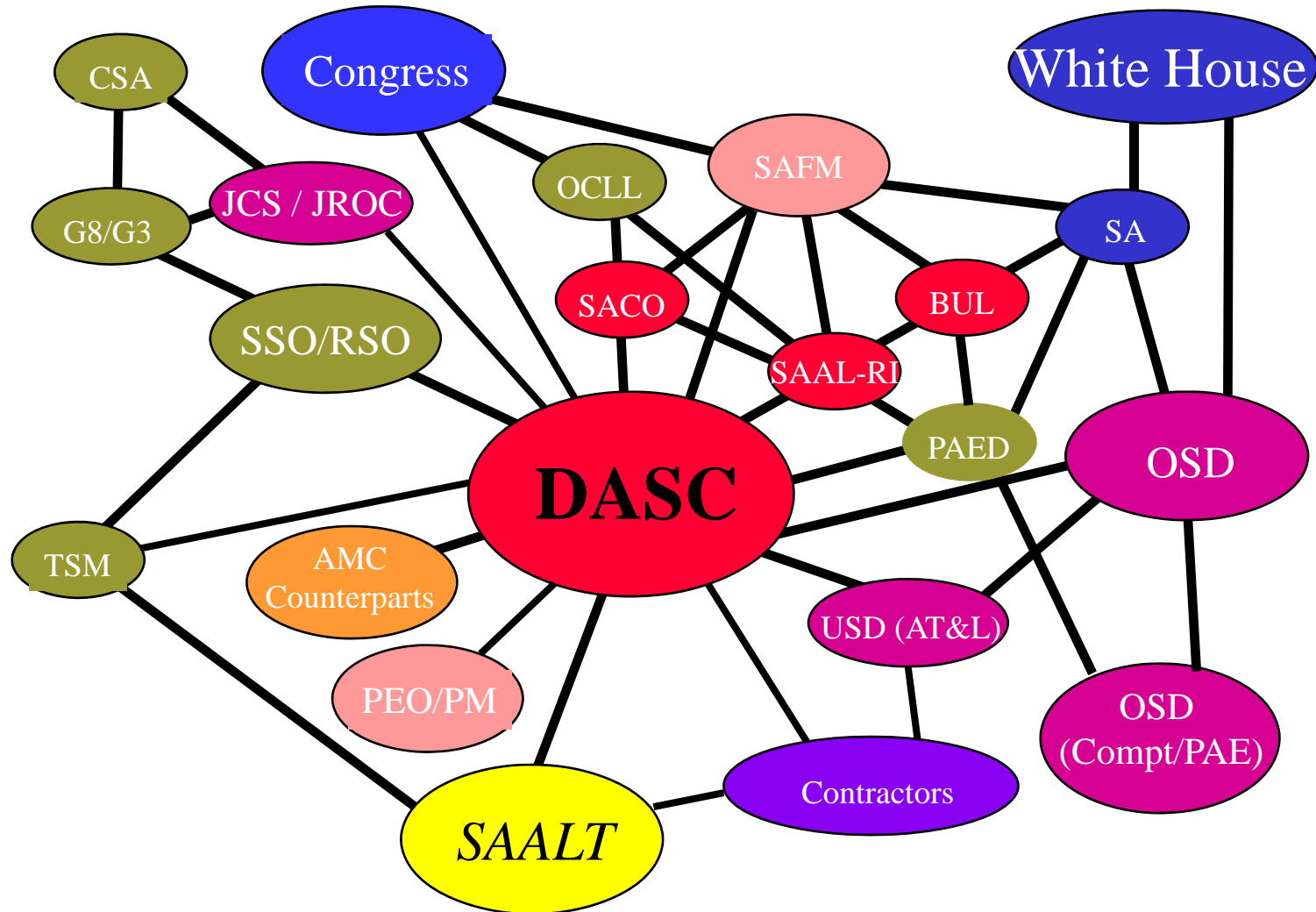
- Army Acquisition Executive
- Senior Procurement Executive
- Science Advisor to the Secretary
- Senior research and development official for the Department of the Army
- Principal responsible for all Department of the Army matters related to acquisition policy & logistics
- *Single Manager for Conventional Ammunition*

Mission:

- Execute the acquisition function and the acquisition management system of the Department of the Army.
 - Advise the Secretary on all matters relating to acquisition and logistics management.
 - Oversee the Army Industrial Base and Industrial Preparedness Programs.
 - Ensure the production readiness of weapon systems.
 - Exercise the procurement and contracting functions, the delegation of contracting authority, and the designation of contracting activities.
-
-

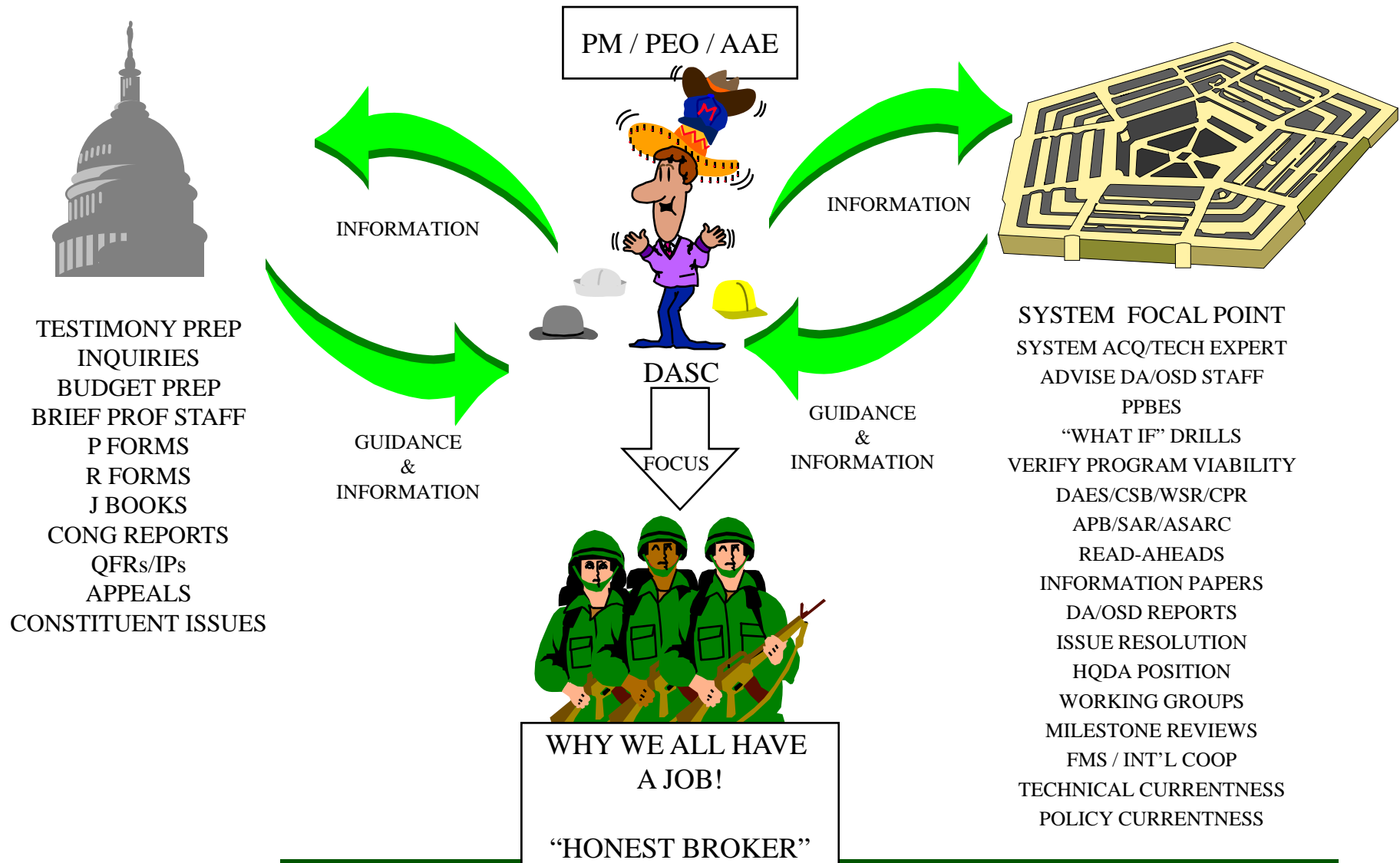


Interactions





The DASC's Life





PERSPECTIVE

300+ PAA Items of Ammunition

- Small Arms Ammunition – 12ga, 9mm, 5.56mm, 7.62mm, .50 cal, Non-Lethal, SESAMS, Tracer, Sniper, Frangible, Lead-Free.
- Medium Caliber Ammunition – 20mm, 25mm, 30mm, 40mm.
- Mortar – 60mm, 81mm, 120mm (HE, Smoke, Illum – VL/IR, APMI).
- Tank – 105mm & 120mm (KE, HEAT, Multipurpose, HEP, Training, Canister)
- Artillery – 75mm, 105mm, 155mm (HE, DPICM, RAP, Smoke, Illum – VL/IR, Practice, Excalibur, Propelling Charges, Fuzes & Primers).
- Pyrotechnics – Simulators, Flares, Obscurants, Signaling, Impulse Cartridges.
- Demolitions – C4, TNT Blocks, Demo Kits, APOBS, MICLIC, Blasting Caps, Initiators & Igniters.
- Shoulder-Fired Rockets – AT4, BDM, M72.
- Grenades – Hand, Training, Smoke, Vehicle Obscurant, Rifle Entry.
- Mines – Claymore, Volcano, Spider (landmine policy).
- Non-standard.
- PLUS -- RDTE (PGK, AKE, APMI), OPA (MFCS, GSTAMIDS, Spider, EOD) & WTCV (Mortars, Towed Artillery).

Many Unique and Diverse Items



SUMMARY

- **Ammunition is a team effort**
- **Many small, unique items**
- **Focus on the Warfighter**
- **Life Cycle Responsibilities**
- **World-wide Management**



SUSTAINING AMERICA'S ARMY - THE STRENGTH OF THE NATION

UNCLASSIFIED



Office of the Deputy Chief of Staff, G-4
Sustainment Directorate
Munitions Division

Deputy Chief of Staff, G-4
Headquarters, Department of the Army

AMERICA'S ARMY: THE STRENGTH OF THE NATION™



UNCLASSIFIED

With all he's carrying



AMERICA'S ARMY: THE STRENGTH OF THE NATION™

Where would he be without Ammo ?



MISSION

Provide Army Staff responsibility and oversight for policy, plans, and resources for:

- Conventional ammunition**
- Missiles**
- Toxic chemical storage**
- Ammunition surveillance**
- Demilitarization**
- Explosives safety and environmental compliance**

Specifics:

Distribution of the Army's munitions stockpile.

Perform ammunition and missile stockpile management functions.

Develop policy for and monitor ammo surveillance and environmental compliance.

Oversight on emerging missile, ammo and ammo information Mgt systems.



Organizational Structure

UNCLASSIFIED



- MDEP Mgmt (\$)
- Army Regulations
Supply Policy
Explosive Safety
Stockpile Reliability
- Systems
SAAS-MOD
WARS/LMP
NLAC
- CL V Accountability
- CL V Audits
- Modularity/QDR
- Ammo Force
Structure
- WRSA
- Retrograde

- Environmental
Regulatory Impact
- EPA Munitions Rule
- Environmental Issues
(munitions/ranges)
- Range Rule/Cleanup
- MPPEH
- MIDAS/MACS
- States' Munitions Rule

- Ammo Surveillance
- Ammo Maintenance
- Chemical Weapons
- Field Inspection
Program
- Explosive Safety
- Prepo Maintenance
Cycle
- Ammo Malfunctions
- Worldwide and
Explosive Safety
Ammo Review
Program
- DDESB/DAESC
- Avalanche Control

- Missile Stockpile Mngt
- Missile System
Oversight
- Munitions Readiness
Review
- Strategic Readiness
Review
- Weapon System
Reviews
- New Systems Fielding

- Stockpile Mgmt
- Stockpile Reliability
- Contingency Ops
- Joint Services Spt
- Joint/Congressional
Readiness Reporting
- Modularity/QDR
- Distribution Execution
(CALS/MIDP)
- WRSA
- Retrograde
- APS – Class V
- OPROJ – Class V
- New Systems Fielding
- FMS/Diversion
- Exercise Planning

AMERICA'S ARMY: THE STRENGTH OF THE NATION™



TOP 10

UNCLASSIFIED

- | | |
|--|---------------------------------------|
| 1. Current Operations | ALL |
| 2. G-4 Transformation | ALL |
| 3. Stockpile Distribution / Reporting | Ms. Carlson/Mr. Murray |
| 4. Ammo Readiness POM/Budget/ Industrial base * | Mr. Carr |
| 5. Munitions Environmental Policies * | Mr. Dallstream |
| 6. Cost Benefit Analysis Ammo Demilitarization | Mr. Carr/Mr. Mattero/Mr
Dallstream |
| 7. Stockpile Readiness (Surveillance & Maintenance)* | Mr. Young |
| 8. Centralized Ammunition Management | Mr. Young/Mr. Carr |
| 9. CALs and Missile Distribution * | Ms. Carlson/Mr. Mattero |
| 10. Munitions Strategic Readiness Assessment * | Mr. Murray |

* Extra visibility periodically



CONVENTIONAL AMMUNITION READINESS

AACS SINGLE MANAGER

CONVENTIONAL AMMO
MANAGEMENT AMC (OMA)

DOD EXPLOSIVE SAFETY
DDESB (RDT&E)

OMA Funding

AANS NON-SMCA

CMD AMC, (OMA)

CMD USAMC, USARPAC,
HQDA (OMA)

ARMY SAFETY (OMA) DA

NLAC (OMA) DA

ARMY EXPLOSIVE
SAFETY DAC (RDT&E)

MUNITIONS SURVIVABILITY
& LOGISTICS (RDT&E)

ASTC TOXIC CHEM STORAGE

CHEMICAL WEAPON
STOCKPILE STORAGE
CMA (OMA)

PAA

RDT&E

ASDE CONVENTIONAL AMMO DEMIL PEO AMMO

MISSILE DEMIL
(PAA)

CONVENTIONAL AMMO
DEMIL (PAA) SMCA

CONVENTIONAL AMMO
DEMIL (PAA) NON-SMCA

NON ARMY MISSILE
DEMIL (PAA)

CONVENTIONAL AMMO
DEMIL RDT&E



Conventional Ammunition Demilitarization

- ❑ As the Single Manager for Conventional Ammunition (SMCA), the Army is responsible for programming, budgeting and execution of the conventional ammunition demilitarization for all the Services
 - Munitions identified as SMCA managed
 - Non-SMCA managed
 - Non-Army missiles
 - Army Missiles



The Program Objective Memorandum (POM) Process

❑ Requirements Build:

- Demil Costs
- Generations
- Stockpile Reduction

❑ Sustaining Program Evaluation Group (PEG) Briefing:

- Validation of Requirement
- Establish Critical Level

❑ Prioritization:

- G-4 Programs Prioritized
- G-4 Total Obligation Authority Spread Based on Army Priorities



Where we are heading - "Sourcing Future Requirements"

- ☐ Posturing for the "next" fight
- ☐ Redistribution to support Rebasing
- ☐ Support to COCOMs
- ☐ Munitions Deployment Planning Process (MDPP)
- ☐ Munitions Expenditure Reporting



Munitions Deployment Planning Process

- ❑ Automated tool to feed the Time Phase Force Deployment Data (TPFDD) module
- ❑ Leveraging Total Ammunition Information System (TAMIS) and National Level Ammunition Capability (NLAC)
- ❑ Provides the Combatant Commander, TRANSCOM, and the Command level 4 detail for deployment planning
- ❑ NLAC complete
- ❑ Next Step: G-3 feed and JOPES linkage



Munitions Expenditure Reporting

- ❑ Reported expenditures via the Joint Staff Munitions Expenditure Report on SIPR
- ❑ J4 asked Army G4/3 in Oct 09 if as the primary users they needed MUREP
- ❑ Primary tracking tool to gather data for requirements and replacement funding
- ❑ G4/3 agreed to field a module in TAMIS to capture combat expenditures
- ❑ Module is operational and in use in OEF as of 1 Oct 10, OND as of 1 Feb 11.



Challenges

❑ Funding

■ OMA

- Taking Risk in Surveillance, Stockpile Mgmt
 - Limits flexibility to redistribute
 - Increases depot release time

■ PAA - Demil

- Growing demil stockpile creates storage inefficiencies
- Postpones Demil to out years, more expensive
- Cluster Munitions Demil

❑ Administration Relook of Current Treaties

❑ Distribution Management

- Asset distribution/Visibility
- Rightsizing World-Wide inventory to meet war fighters need.
- Accurate forecasting (What, Where, How Much and When)



Munitions Division Personnel

Ms. Susan Carlson (Division Chief)	703 614-1191
Mr. Jim Young (QASAS)	703 614-3857
Mr. Steve Carr (Ammo Manager)	703 614-1151
Mr. Pat Murray (Ammo Manager)	703 692-4545
Mr. Sam Dallstream (Ammo Manager)	703 614-4058
Mr. Frank Mattero (Missiles)	703 614-1216
Mr. Pat Moses	703 614-4039



UNCLASSIFIED

QUESTIONS ?

AMERICA'S ARMY: THE STRENGTH OF THE NATION™

**AMERICA'S ARMY:
THE STRENGTH OF THE NATION™**

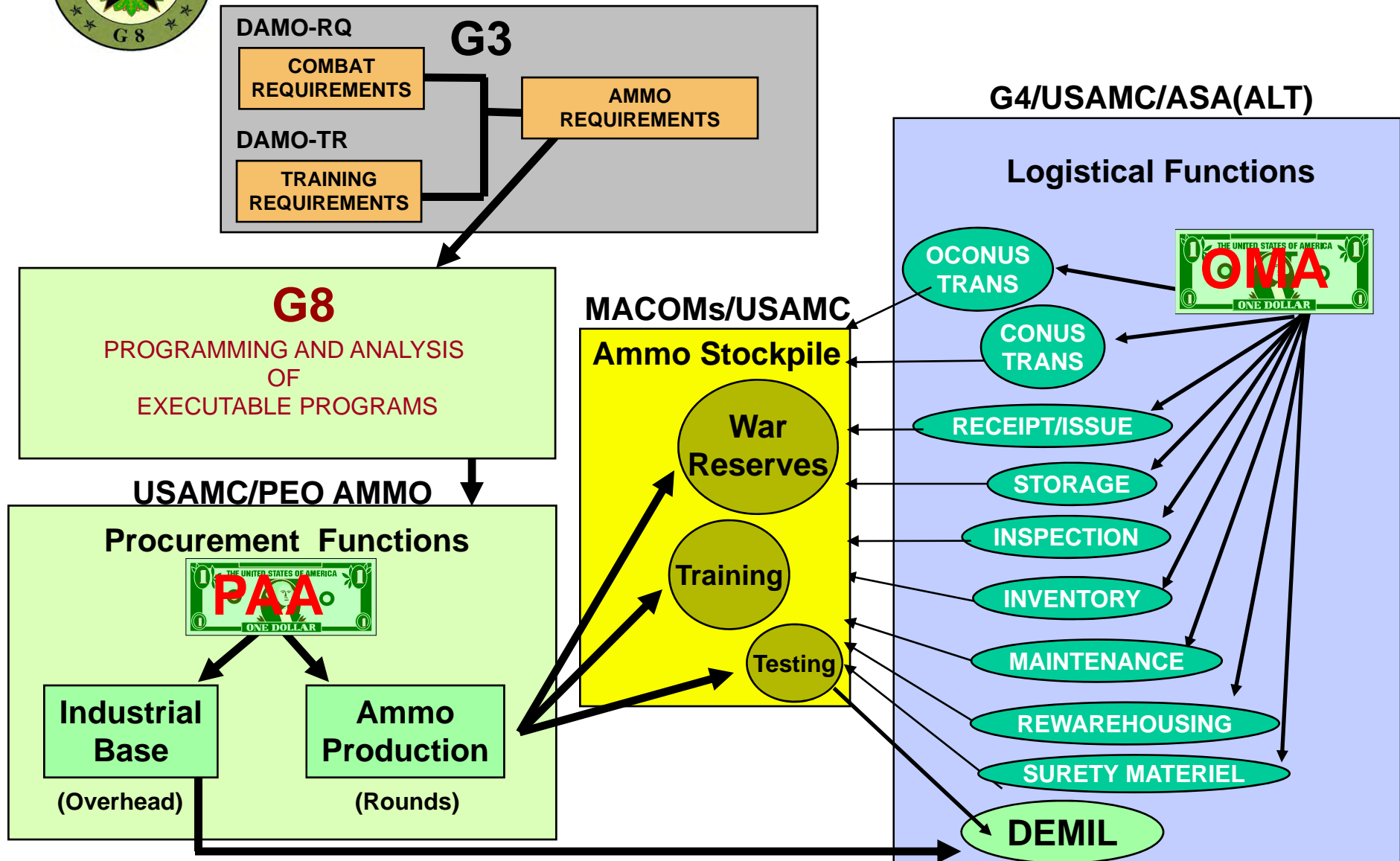


**Ammo Funding
3 February 2011
Don Chrans**



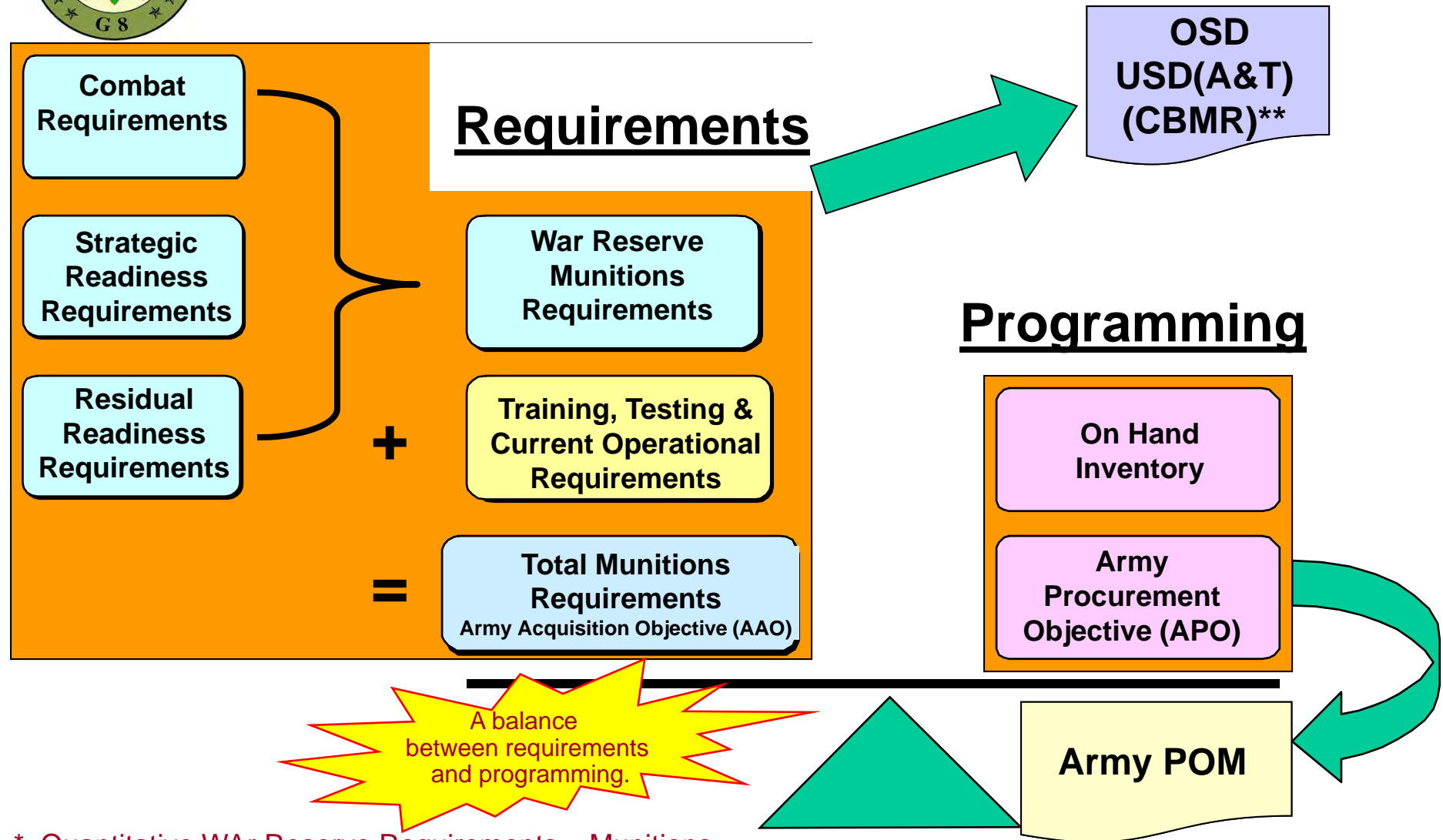


How Ammo Works





QWARRM* Process

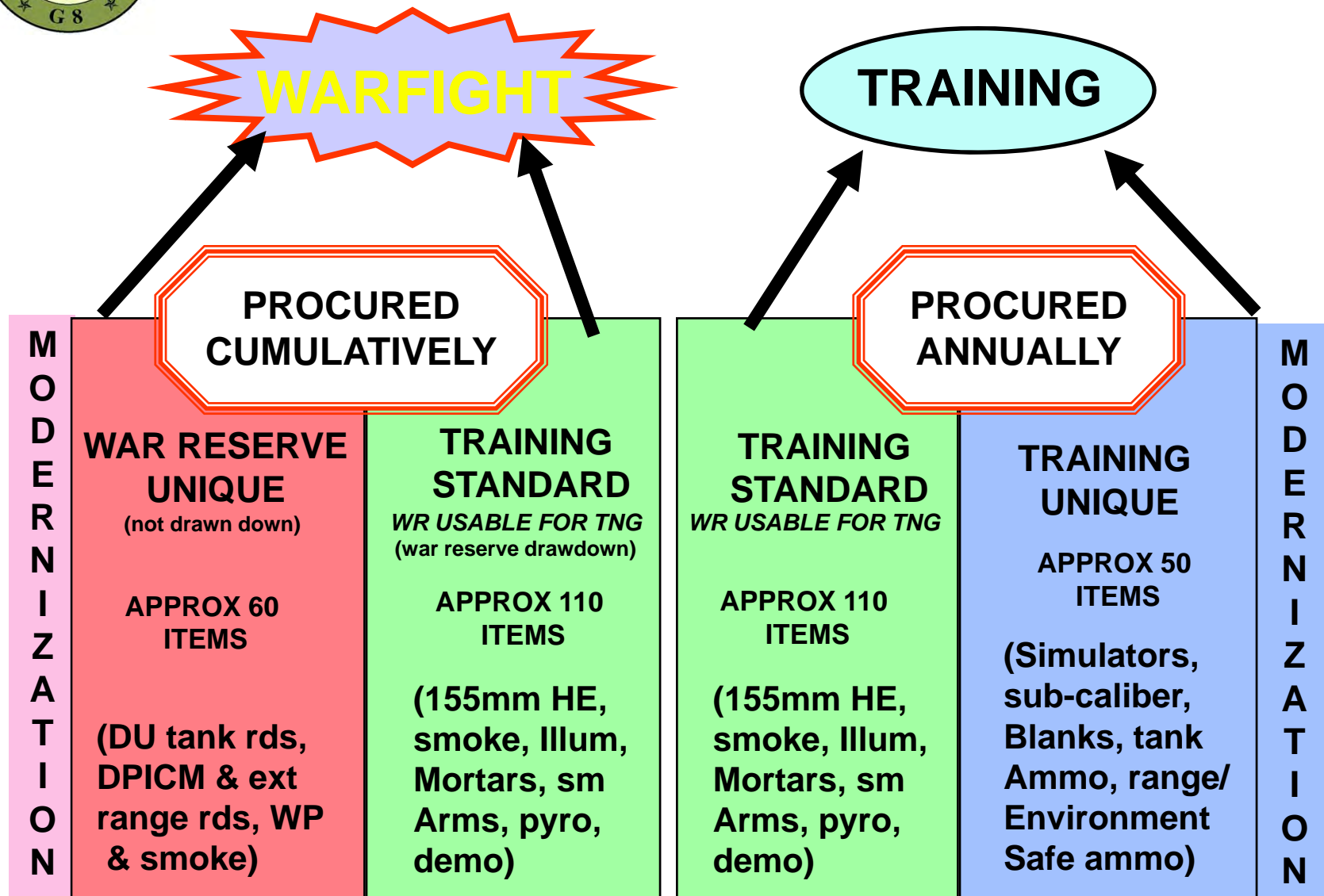


* Quantitative War Reserve Requirements – Munitions.

** CBMR - Capabilities Based Munitions Requirements IAW DODI 3000.4.



Ammunition Categories





What is PAA?

(Procurement of Ammunition, Army)

Two Activities:

FY10

- Activity 1 - Ammunition

\$1,732M

- Training/Test Ammo
- War Reserve Fill
- Hydra Rockets Training Ammo
- War Reserves/Modernization

\$1,125M - Ammo BOS

\$343M - Ammo BOS.

\$100M - Aviation BOS

\$164M - Other FD BOSs.

Supplemental
\$371M

- Activity 2 - Prod Base Support

\$319M

- Industrial Facilities
- ARMS
- Demil

\$170M - Ammo BOS.

\$3M - Ammo BOS.

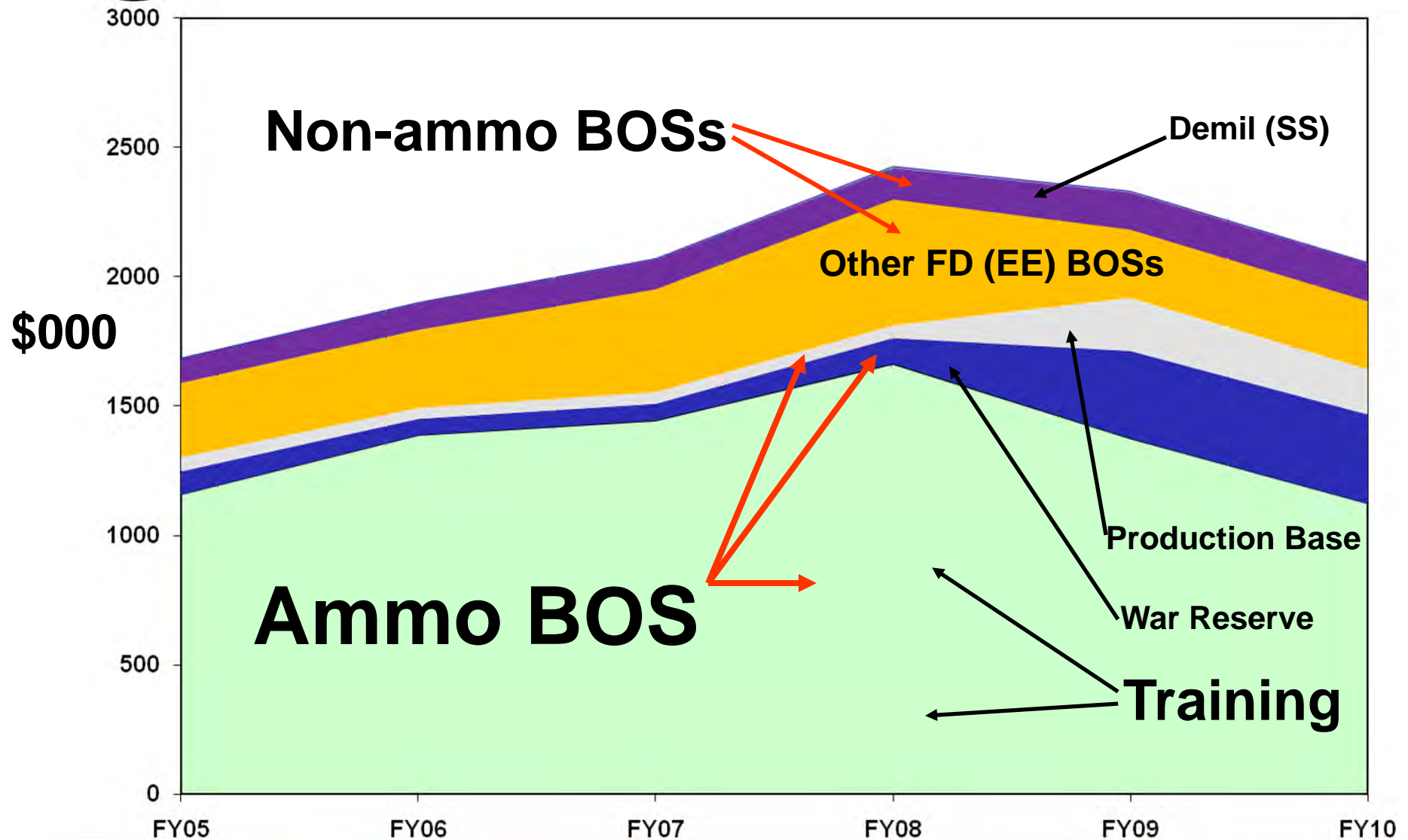
\$146M - SS PEG / G-4

- TOTAL

\$2051M



Total Ammunition (PAA) Picture





AMMO FUNDING FY10 Base Budget

**FY11 Base
\$1,979,414**

	Root	Request	Appropriated	Delta	Reason for Delta
BASE	AIRCRAFT LAUNCHED AMMO	96,572	94,572	-2,000	30mm Unjustified Program Growth
	AMMO PRODUCTION BASE	173,428	180,228	6,800	Projects at SCAAP and LCAAP
	AMMUNITION SUPPORT	43,608	49,928	6,320	Blue Grass equip and Supercritical Water Oxidation demil
	APL-A	56,387	56,387		
	ARTILLERY AMMO	183,942	180,142	-3,800	-5,000 105mm; -6,000 MACS; +7,200 155mm Illum
	AVIATION FLARES	75,242	63,242	-12,000	General reduction
	DEMIL	145,777	145,777		
	DEMOLITIONS	18,793	18,793		
	EXCALIBUR	62,292	62,292		
	GRENADES	49,910	49,910		
	HYDRA ROCKET	99,904	99,904		
	MEDIUM CALIBER AMMO	189,729	193,729	4,000	40mm all types
	MGS-STRYKER AMMO	7,741	7,741		
	MINES	815	815		
	MORTAR AMMO	157,287	164,687	7,400	60mm WP; 60mm Illum; 120mm Illum
	PGK	19,870	19,870		
	NON-LETHAL AMMO	7,378	7,378		
	PROTECTIVE SYSTEMS (IMS)	19,507	19,507		
	SHOULDER FIRED ROCKETS	45,302	42,802	-2,500	General reduction
	SIGNAL MUNITIONS	7,852	7,852		
	SMALL CALIBER AMMO	452,816	452,816		
	SPECIAL AMMUNITION	12,179	12,179		
	TANK MAIN GUN AMMO	113,483	113,583		
	SIMULATORS	12,081	12,081		
Grand Total		2,051,895	2,056,115	4,220	

DAPR-FDX



Ongoing Budget Questions

- **FY11 Base Budget and Overseas Contingency Operations (OCO)**
Will we get an appropriations bill or a year long CRA?
- **FY12 Budget Request and 12 OCO to the Hill on 14 Feb**
What will the new Congress do with that?
- **Starting the FY13-17 POM build and 13 OCO**
What assumptions do we make to the first two questions?
What if we are wrong?
How many times can you rework a POM in a six month period?



Ammo Procurement Summary

Ammo Funding is a Balancing Act

- **Training**
 - Provide enough ammo for units to train
 - Buy enough ammo to replenish what is expended
- **War and Operations**
 - **SUSTAIN SOLDIERS IN CURRENT OPERATIONS**
 - Replenish stocks expended in operations
 - Build/Replenish War Reserve stocks
 - Modernize stocks in the process
- **Industrial Base**
 - Replace/Upgrade/Repair organic capabilities
 - Transition to efficiency upgrades
 - Ramp down production to avoid sharp changes



Munitions Executive Summit PM Acquisition Panel

PEO Ammunition: PM Close Combat Systems

4 February 2011

COL Steven F. Cummings

Project Manager, CCS

(973) 724-7041

steven.f.cummings@us.army.mil

Ms. Doreen Chaplin

Dep. Project Manager, CCS

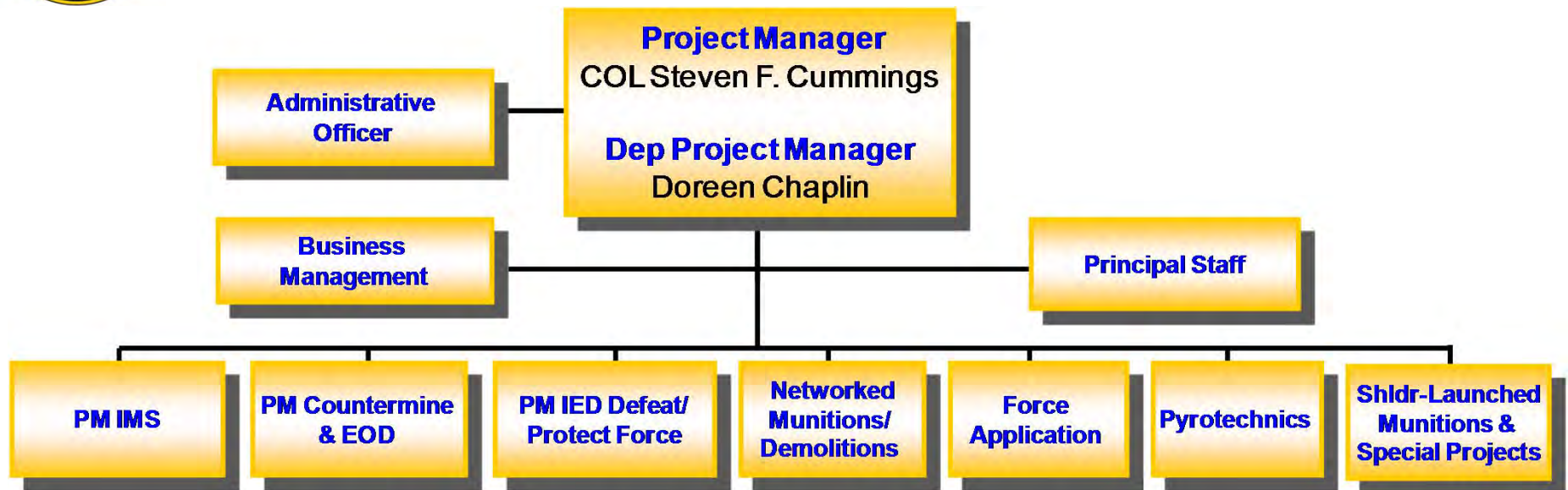
(973) 724-7573

doreen.chaplin@us.army.mil

Mission: Provide the Warfighter world-class close combat, force protection & assured mobility capabilities across full spectrum operations through professional, integrated Joint Life-Cycle Management.



PM Close Combat Systems

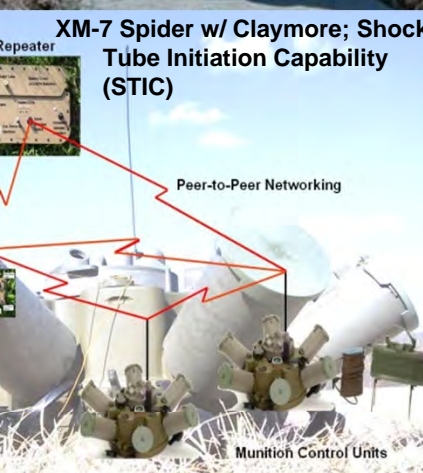
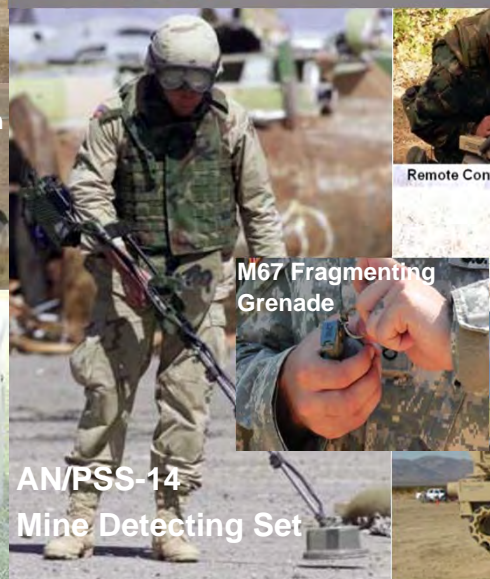
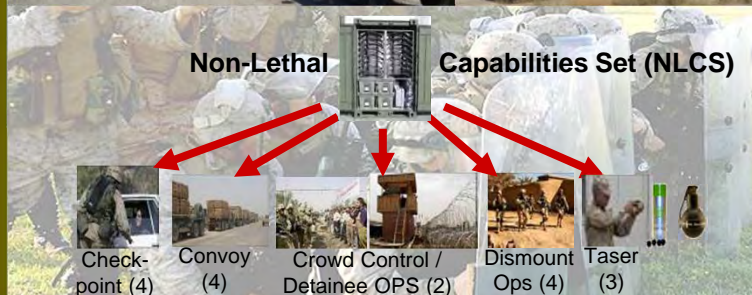
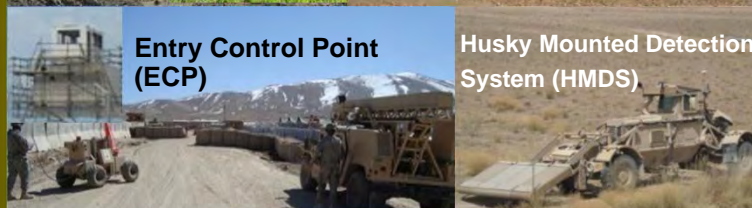
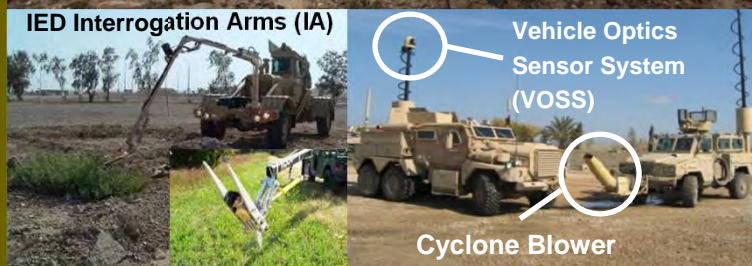


<http://ccsweb.pica.army.mil>



PM CCS Support to the Warfighter

PM CLOSE COMBAT SYSTEMS

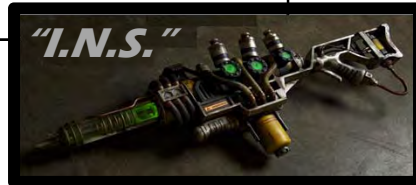




S&T Priorities / Needs

☐ N-L @ Extended Range

- N-L Effects @ 5 - 400m (Objective)
(-vs- current 10-30 m)



☐ Counter-IED Tech

- Xplo Detection @ Stand-Off
- Neutralization @ Stand-Off

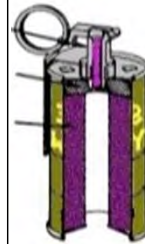


☐ Next Gen Hand Grenade

- Dual Mode; N-L -or- Lethal A-P effects
- Component Miniaturization (MEMS)
- MilStd-1911-compliant fuzing

☐ "Dial-a-Smoke" Grenade Device

- Unique Device to offer 2 Color options from 1 Signal Grenade
- Consolidates 4 existing grenades to 2 new grenades



☐ Shoulder-Launched Munition Trainer

- Cost-Effective *and* Realistic SLM training solution

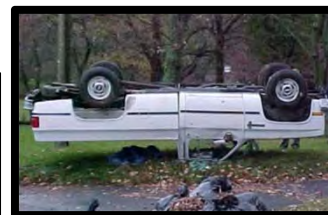


\$1.00



\$90.00

(vice: 9mm @ \$1 ea. -or- 21mm Rkt @ \$90 ea. (!!!))



☐ N-L Vehicle Stopper

- Immediate "STOP" of Medium Wt Vehicles
- No lasting effect to Occupants or Vehicle - "Reversible"



Challenges

- Implementation of Dr. Carter Efficiencies
 - Reductions in government overhead
 - Greater, more candid interaction with industry counterparts
 - Competition and path to organic management

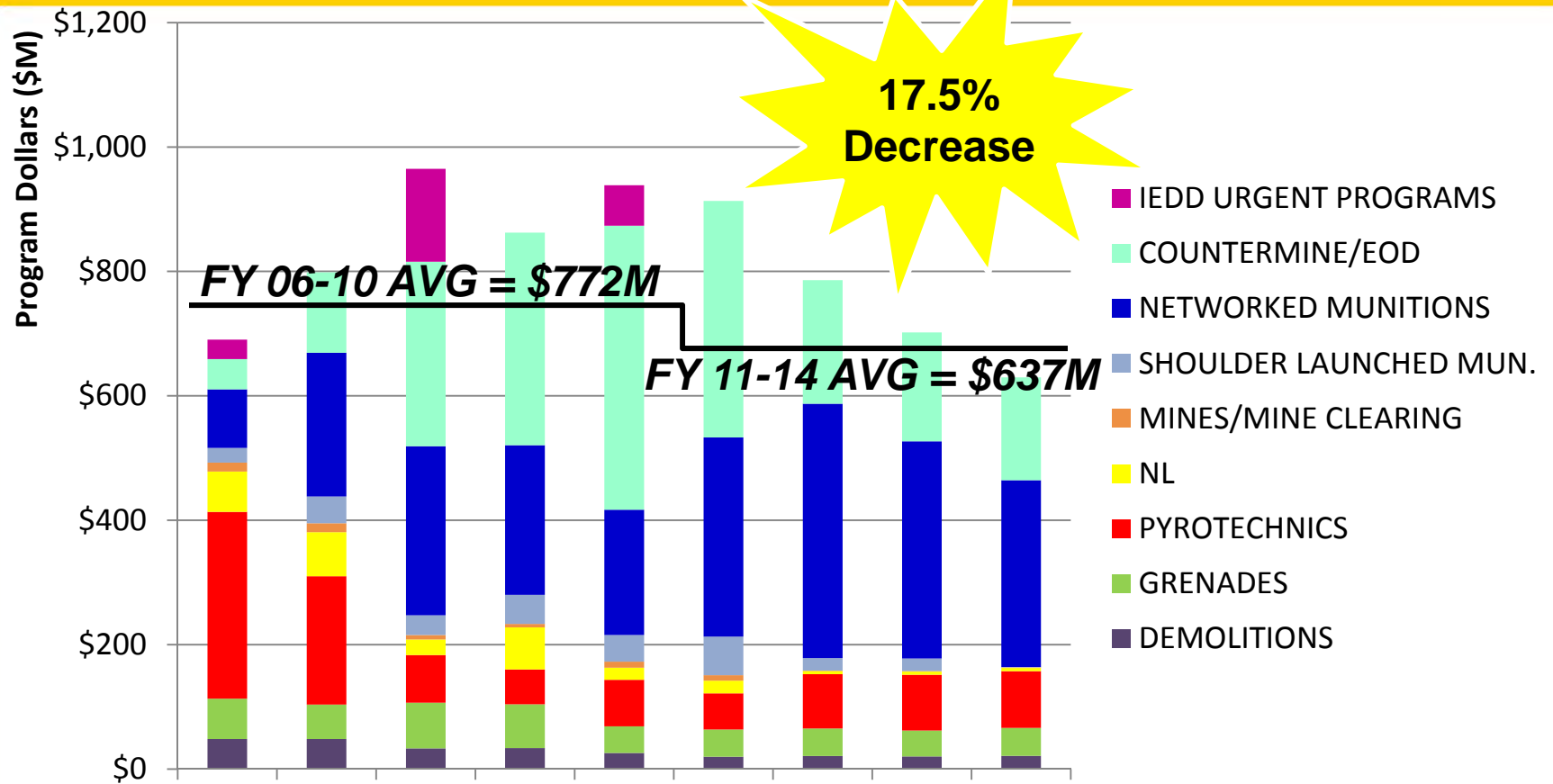


New Competitive Solicitations in FY11/FY12

- CCS Field Services
- Ammunition
 - Anti Personnel Obstacle Breaching System (APOBS)
 - M58 Mine Clearing Line Charge (MICLIC)
 - M142 Multi-Purpose Firing Device
 - M18A1 Claymore
 - M700 Time Blast Fuze
 - Handheld Signals - FY12
 - M10 Destructor - FY12
- OPA
 - Military Working Dogs (MWD)
 - Husky Mounted Detection System (HMDS)
 - Vehicle Optic Sensor System (VOSS) - FY12
- R&D
 - Spider II
 - Autonomous Mine Detection System (AMDS)



Conventional Funding – Over Time



	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14
DEMOLITIONS	\$48.4	\$48.3	\$33.3	\$33.7	\$25.9	\$19.8	\$20.9	\$20.2	\$21.2
GRENADES	\$64.7	\$55.3	\$73.4	\$70.5	\$42.8	\$43.8	\$44.3	\$41.9	\$45.0
PYROTECHNICS	\$300.4	\$206.4	\$46.5	\$55.9	\$74.9	\$58.2	\$87.3	\$89.6	\$91.1
NON-LETHAL	\$64.8	\$70.7	\$25.0	\$67.6	\$19.4	\$20.3	\$5.0	\$5.1	\$5.2
MINES/MINE CLEARING	\$14.2	\$14.5	\$7.3	\$5.7	\$9.8	\$8.7	\$0.8	\$0.8	\$0.8
SHOULDER LAUNCHED MUN	\$23.6	\$43.0	\$31.6	\$46.8	\$42.7	\$62.0	\$20.0	\$20.1	\$0.7
NETWORKED MUNITIONS	\$94.2	\$231.0	\$271.7	\$240.5	\$201.6	\$320.4	\$409.0	\$349.2	\$300.4
COUNTERMINE/EOD	\$48.6	\$129.4	\$296.7	\$341.6	\$456.6	\$380.0	\$198.5	\$175.1	\$165.3
IEDD URGENT PROGRAMS	\$31.3	\$0.0	\$149.4	\$0.0	\$64.9	\$0.0	\$0.0	\$0.0	\$0.0

Innovation ... Delivered.

Munitions Industry Readiness

Karen Davies

President, ATK Armament Systems

February 3, 2011



Many Forces Putting Pressure on Munitions Budget

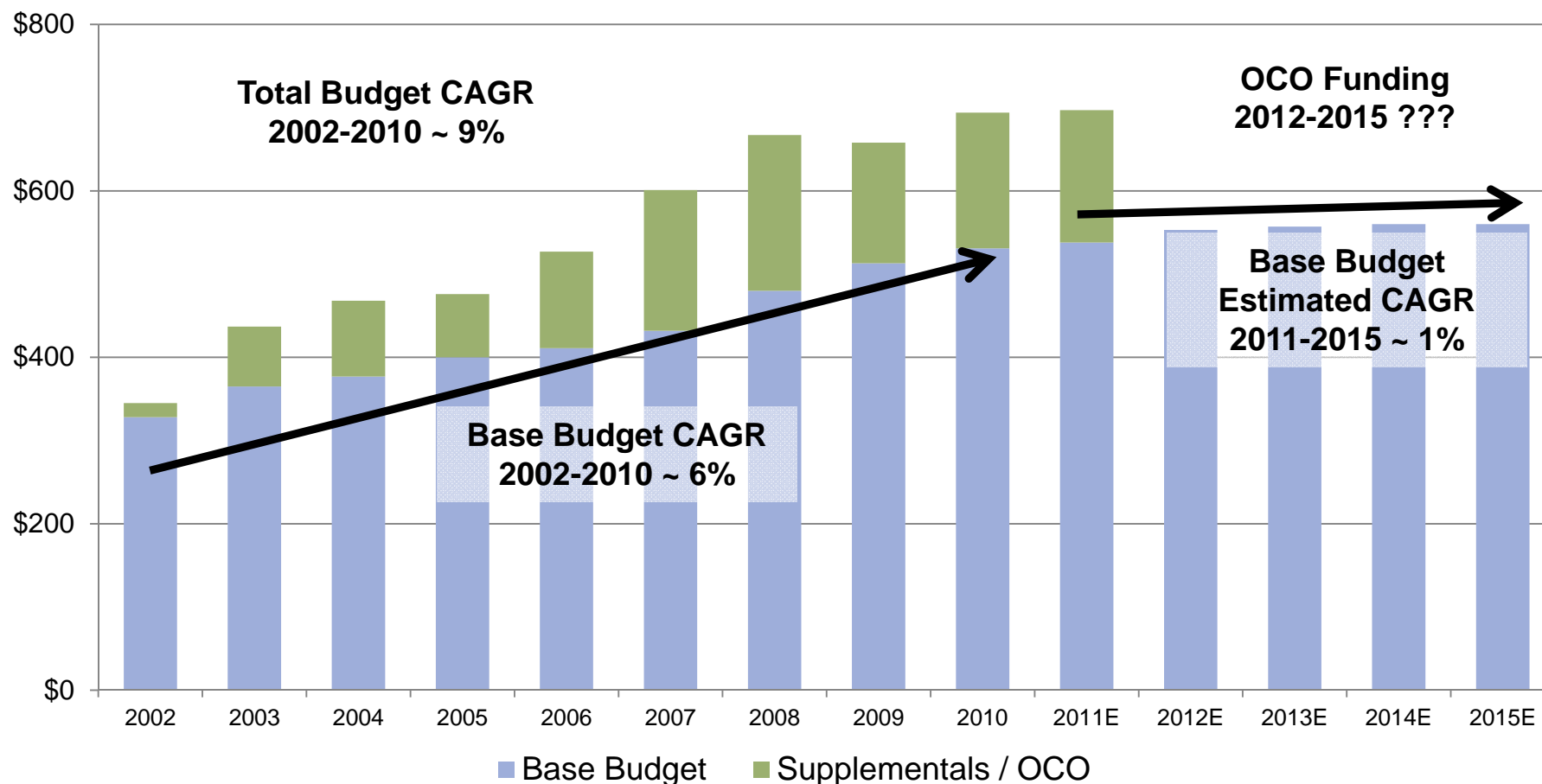


Our challenge is to keep pressures from affecting readiness and national security

US Defense Spending is Poised for a Slowdown



US DoD Budget Authorization (\$ billions)

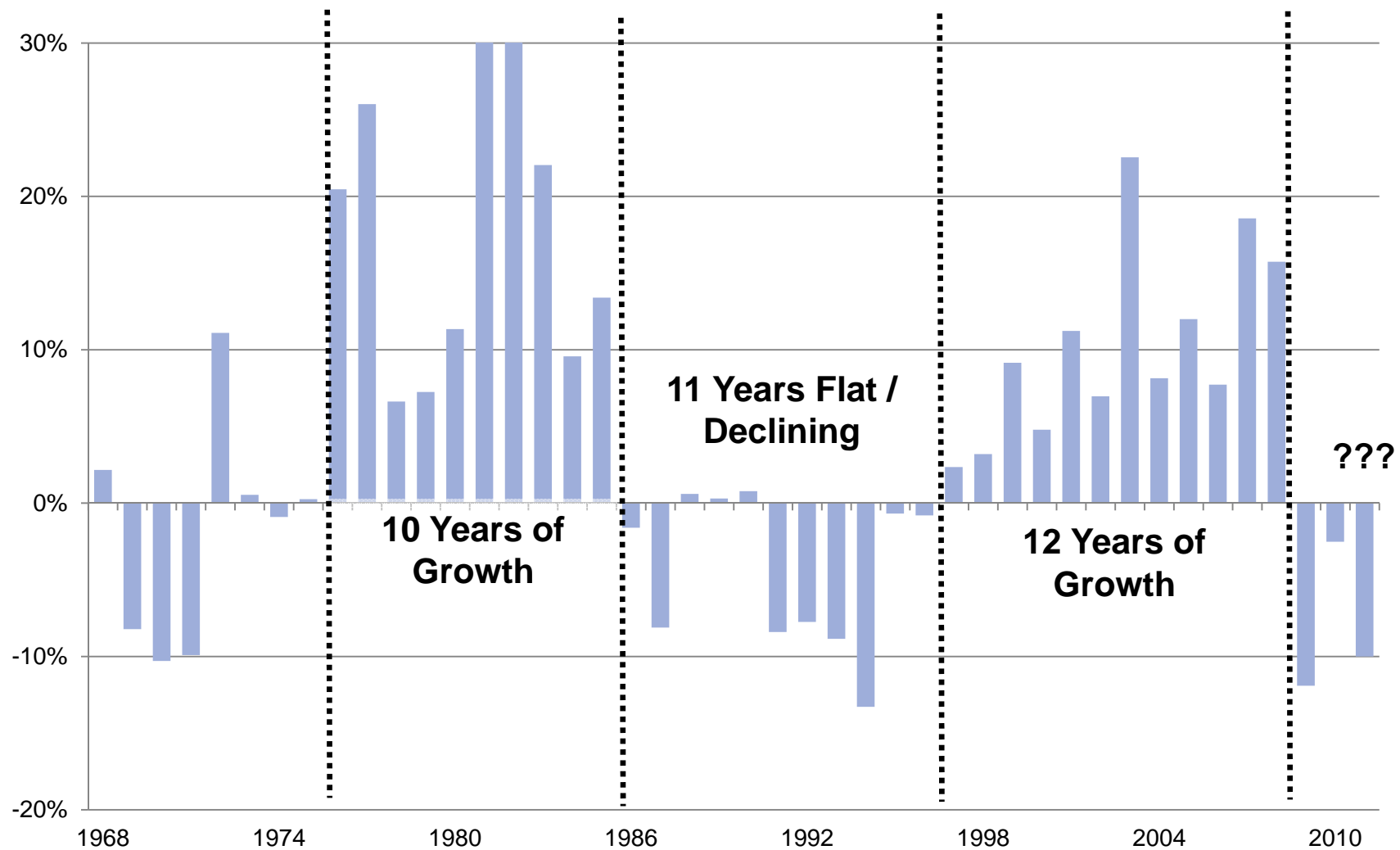


- Secretary Gates remarks on January 6th: base DoD budget will be roughly flat beyond FY12
- OCO spending beyond FY11 remains uncertain – total DoD budget authority likely to decline
- Uncertain whether Congress will force additional cuts to DoD budgets

Defense Spending Historically Moves in Long Cycles



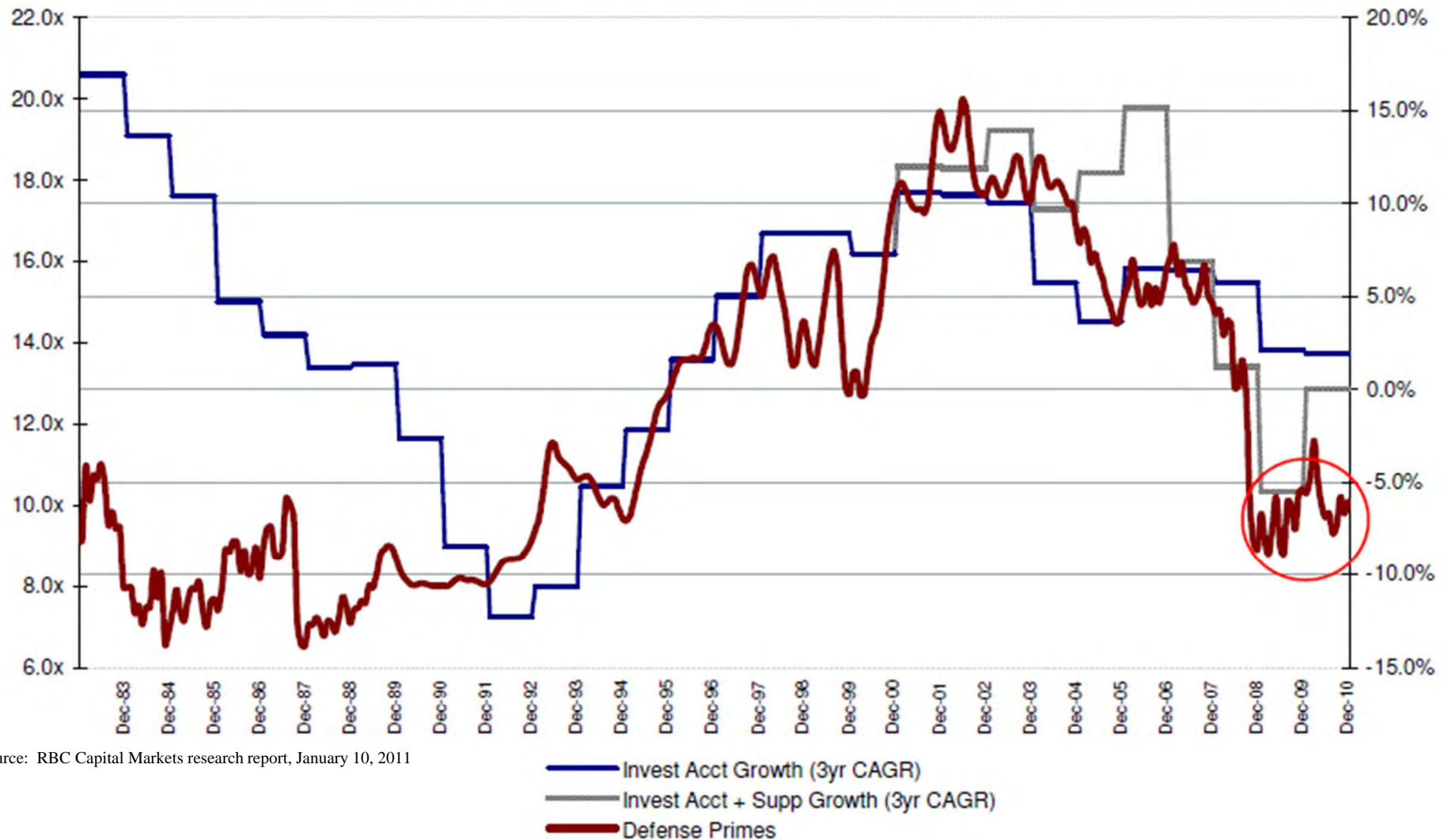
Historical Growth in US Defense Investment Accounts (Procurement + RDT&E)



Stock Prices React Quickly to Lower Defense Budgets



Defense Sector Forward P/E vs. DoD Investment Account Growth



Source: RBC Capital Markets research report, January 10, 2011

Lower valuations reduce ability to invest

Industry has Reacted to Lower Defense Budget

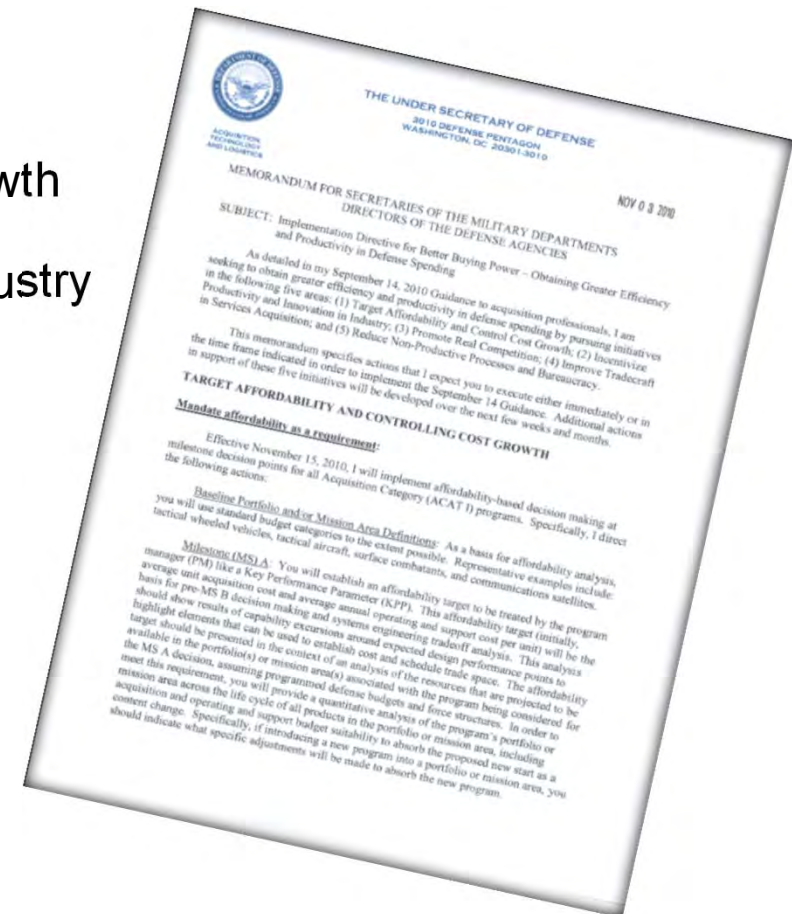


- Multi-industry firms may look to exit the defense business (ITT)
- Defense primes looking to divest non-core or slower growth assets (Northrop)
- Increased focus on cost management
 - Down-sizing workforce
 - Facility consolidation
- More focus on minimizing risks – (Northrop decision to “no-bid” tanker competition)
- Shifting capital deployment priorities – increasing focus on dividends and share buybacks vs. investments in growth
- Reshaping company portfolios to balance defense content
- International market pursuits to fill holes in domestic revenue

**Prolonged downturn in defense spending
likely leads to more adjustments**

Ashton B. Carter Memo – November 2010

- ☐ Target Affordability and Controlling Cost Growth
- ☐ Incentivize Productivity and Innovation in Industry
- ☐ Promote Real Competition
- ☐ Improve Tradecraft in Services Acquisition
- ☐ Reduce Non-productive Processes and Bureaucracy



Reaction to a shrinking budget and contract initiatives will determine the impact to munitions base

Munitions Community Has Strong Performance History

- PEOs have considered the industrial base in their acquisition strategies
 - IBAT/MSR is an important tool
 - All companies should engage
- ICAP, MIBTF, and MES provide forums for open dialogue and collaboration
 - Soft Landing initiatives
- Munitions industry is relatively lean
- Government has used appropriate contract types
- Good participation by small businesses
- Open dialogue with PMs on upcoming funding and strategies to manage through difficult times

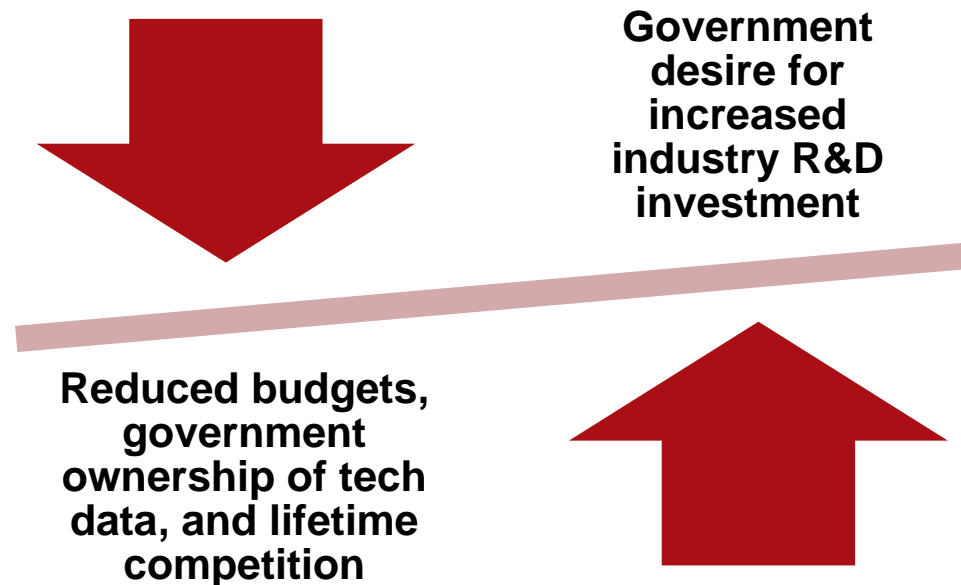


We must continue our cooperation

Five Recommendations for the Path Forward



- Some contracting initiatives intuitively conflict



- Potential solutions will require collaboration
 - Significant production quantities prior to competition
 - Leader/follower strategy with fee/work share rewards for investment and tech data
 - Accept competition at sub-tier supply levels
 - Preferred Supplier Programs (e.g. Navy SSIP)

Opportunities are plentiful

- Procurement timelines need significant improvement
- Export licensing approval process
- Review and approval cycles for configuration control
- Logistics and movement of product throughout the value chain

Current State



Most administrative processes have opportunities for 50% to 75% reductions in work flow and cycle times



Future State

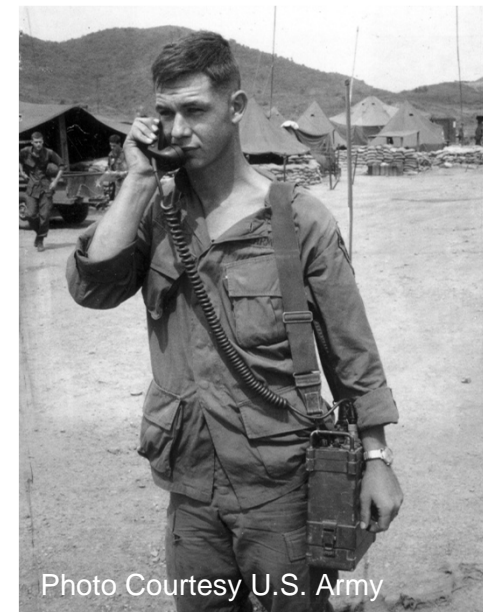
“Every problem has a gift for you in its hands.”

Richard Bach

Open and Early Communication



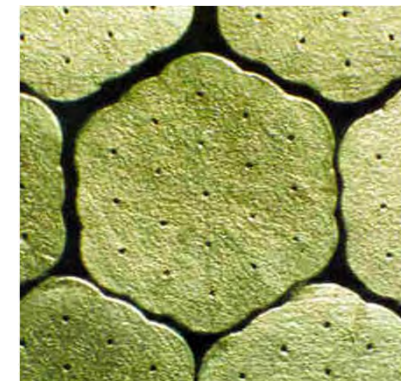
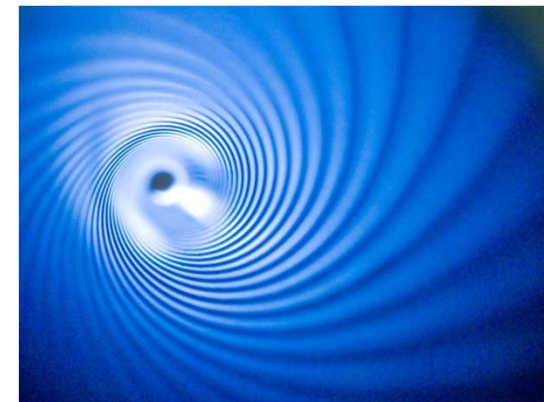
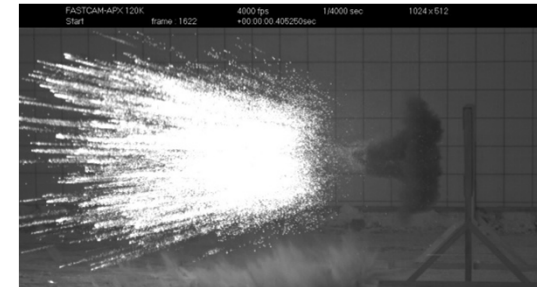
- Build realistic “Should Cost” targets with involvement of industry
- Discuss potential risks as production quantities decrease to allow industry to adjust investments and work force levels
- Engage in discussions to develop strategies to split procurements
- Supplement use of IBAT/MSR with discussions as budgets are created
- Set realistic production quantities in initial program RFPs
- Industry has responsibility to notify customers early if significant supply chain and factory changes likely to occur



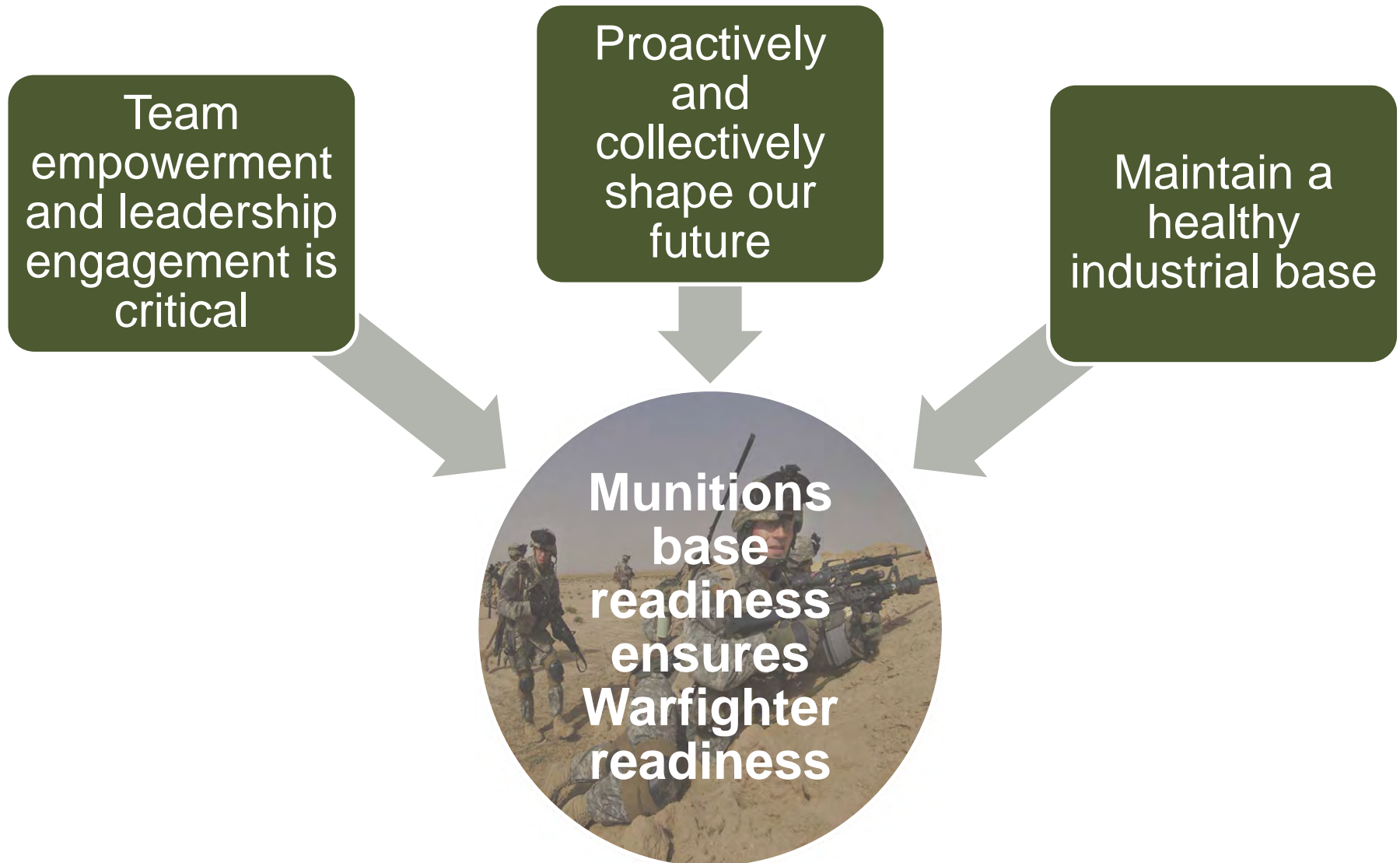
We Must be Willing to Manage Change



- Evaluate whether dual sources are affordable at reduced quantities and could drive participants out of the base
- Share cost or offer incentives to redesign processes and equipment for flexibility
- Update designs for current industry accepted test methods and specifications
- Rationalize munitions portfolio to reduce need to maintain unique capabilities
- Creative contract clauses to deal with uncertainty of production quantities
 - Recovery of investment
 - Flexible delivery schedules
- Best value or best price?



Leadership Engagement and Proactive Decisions



MUNITIONS EXECUTIVE SUMMIT

February 2-4, 2011

RESPONSIVE MUNITIONS SUPPORT TO THE U.S. WARFIGHTER

Achieving Efficiencies in an Uncertain Budget Environment



Agenda

Sponsorship

**Speaker
Biographies**

FEBRUARY 2-4, 2011
WWW.NDIA.ORG/MEETINGS/1650

GRAND HYATT TAMPA BAY ► TAMPA, FL

EVENT #1650

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OUR SPONSORS!**



WEDNESDAY, FEBRUARY 2, 2011

4:00 PM - 6:00 PM **REGISTRATION OPENS**

5:00 PM - 6:00 PM **OPENING RECEPTION**

THURSDAY, FEBRUARY 3, 2011

7:00 AM **REGISTRATION OPENS**

7:00 AM - 8:00 AM **CONTINENTAL BREAKFAST**

8:00 AM - 8:15 AM **WELCOME / ADMINISTRATIVE REMARKS**

Mr. Tim Bagniefski
Munitions Division Chair
MG Barry Bates, USA (Ret)
VP, Operations, NDIA

8:15 AM - 8:30 AM **PEO-AMMUNITION, WELCOME & OPENING REMARKS**

BG Jonathan A. Maddux, USA
PEO-Ammunition

8:30 AM - 9:30 AM **US GOVERNMENT KEYNOTE ADDRESS**

LTG William Phillips, USA
ASA-ALT MILDEP

9:30 AM - 10:15 AM **INDUSTRY KEYNOTE ADDRESS**

Ms. Karen Davies
President, ATK Armament Systems

10:15 AM - 10:30 AM **BREAK**

Sponsored by Day & Zimmermann



10:30 AM - 11:30 AM **OSD PERSPECTIVE**

Mr. Jose Gonzalez
OSD - Acquisition, Technology & Logistics

THURSDAY, FEBRUARY 3, 2011 (CONT)

11:30 AM - 11:45 AM **2010 MES AWARDS**

11:45 AM - 1:00 PM **LUNCH**

Sponsored by General Dynamics OTS

GENERAL DYNAMICS
Ordnance and Tactical Systems

1:00 PM - 2:15 PM **AMMUNITION ENTERPRISE CROSS SERVICE PANEL**

BG Jonathan A. Maddux, USA

Program Executive Officer Ammunition

BG Gustave Perna, USA

Commanding General, Joint Munitions Command

BGen Francis Kelly Jr., USMC

Commander, Marine Corps System Command

Maj Gen Andrew Busch, USAF

Commander, Ogden Air Logistics Center,
Air Force Materiel Command

RDML James McManamon, USN

Deputy Commander, Surface Warfare and Director,
Ordnance Safety, Naval Sea Systems Command

Mr. Barry Pike

Deputy Program Executive Officer Missiles & Space

2:15 PM - 2:45 PM **DOD INDUSTRIAL POLICY**

Mr. Brett Lambert

Deputy Assistant Secretary of Defense for Industrial Policy, OSD, AT&L

2:45 PM - 3:00 PM **BREAK**

Sponsored by L-3 Fuzing & Ordnance Systems



3:00 PM - 4:15 PM **US ARMY MUNITIONS REQUIREMENTS**

Mr. Don Chrans

G-8

Mr. Steve Carr

G-4

Mr. Jeff Brooks

ASA-ALT Ammo DASC

COL Rick Mason, USA

G-3

**THANK YOU TO
OUR SPONSORS!**



GENERAL DYNAMICS
Ordnance and Tactical Systems



BAE SYSTEMS

**THANK YOU TO
OUR SPONSORS!**



THURSDAY, FEBRUARY 3, 2011 (CONT)

4:15 PM - 4:45 PM

TECHNOLOGY DEMANDS ON THE FUTURE INDUSTRIAL BASE

Dr. Gerardo Melendez
ARDEC Technical Director

4:45 PM - 5:15 PM

ICAP REPORT

Mr. Michael S. Wilson
President, General Dynamics-OTS

5:30 PM - 7:00 PM

HOSTED GRAND RECEPTION

Co-Sponsored by ATK



Co-Sponsored by DSE



FRIDAY, FEBRUARY 4, 2011

7:00 AM - 7:45 AM

CONTINENTAL BREAKFAST

7:45 AM - 8:00 AM

ADMINISTRATIVE REMARKS

Mr. Tim Bagniefski
Munitions Division Chair

8:00 AM - 8:45 AM

US MUNITIONS INDUSTRIAL COMPLEX – READINESS AND RESOURCE ISSUES

BG Gustave Perna, USA
Commanding General, Joint Munitions Command

FRIDAY, FEBRUARY 4, 2011 (CONT)

8:45 AM - 10:15 AM

PM ACQUISITION PANEL

Mr. Jim Shields

Chair, DPEO Ammunition

COL Jeff Wilson, USA

PD Joint Services

COL Scott Turner, USA

PM Combat Ammunition Systems

COL Steven Cummings, USA

PM Close Combat Systems

COL Danny Wiley, USA

PM Maneuver Ammunition Systems

Col Victor Rodriguez, USAF

PD Joint Products

10:15 AM - 10:30 AM

BREAK

Sponsored by Kaman Precision Products



10:30 AM - 11:10 AM

WARFIGHTER PERSPECTIVE

TBD

11:10 AM - 11:45 AM

CONGRESSIONAL BUDGET PERSPECTIVE

Mr. Dick Ladd

CEO, Robison International

11:45 AM

CLOSING REMARKS

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GENERAL DYNAMICS
Ordnance and Tactical Systems



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ATK continues to expand its business as a leading provider of enhanced lethality and survivability solutions with core competencies in facility and supply chain management; small-medium and large-caliber ammunition design and manufacture; medium-caliber gun system design and manufacture; precision weapons technology; and advanced propellant and energetics production.

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Our commitment to building strong client relationships is the cornerstone of our success. We deliver the finest products and services to our customers. We accomplish our mission by promoting a dynamic culture of teamwork, corporate and social responsibility, ethics, innovative technology and continuous improvement.

DSE's manufacturing and quality control systems are ISO 9000:2008 certified. All manufacturing and quality control processes of DSE and its suppliers have been approved by the U.S. Government. Features considered critical to the safety of the warfighter are inspected on every round produced. Samples from every production lot are tested per Military Specifications and must meet exact requirements ensuring reliable performance and safety of each round.

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General Dynamics Ordnance and Tactical Systems, a business unit of General Dynamics, is a world leader in the manufacture of large, medium- and small-caliber direct and indirect-fire munitions, mortar weapon systems and components, artillery projectiles, as well as hybrid, extruded and Ball Powder® propellants. The company also manufactures precision metal components for missiles, rockets and bombs; provides explosive load, assembly and pack services for a variety of munitions, tactical missile and rocket programs; and designs and produces shaped charge and penetrator warheads. More information about General Dynamics Ordnance and Tactical Systems is available online at www.gd-ots.com.



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Mr. Tim Bagniefski

Timothy J. Bagniefski is Vice President of Marketing and Business Development for General Dynamics Ordnance and Tactical Systems. The company's core business is in munitions with sales of approximately \$1.35 billion.

Mr. Bagniefski has over 28 years of experience in the defense field. He joined Olin Corporation in 1988 as a management intern. During his nine years with Olin, Mr. Bagniefski held positions of increasing responsibility within its Winchester and Olin Ordnance Divisions. On January 1, 1997, Olin Corporation spun off its Ordnance and Aerospace divisions into Primex Technologies, Inc., Mr. Bagniefski was promoted to Director, International Marketing and Strategic Planning for the newly formed company.

In 2001, after the acquisition of Primex Technologies by General Dynamics, Mr. Bagniefski was promoted to Vice President, Marketing and Business Development for General Dynamics-OTS, responsible for all domestic and international business development programs for the OTS Division.

Mr. Bagniefski currently serves as the chairman of the NDIA Munitions Division. He also serves on the Board of Directors of the Florida Federal Contractors Association. Mr. Bagniefski's office is located at General Dynamics Ordnance and Tactical Systems headquarters in St. Petersburg, Florida.

MG Barry Bates, USA (Ret)

Prior to retirement from the U.S. Army on 1 January 2003, General Bates served as the Commander, 19th Theater Support Command, Eighth U.S. Army, Republic of Korea. In this capacity he was responsible for logistics support and installation management for U.S. Army forces in Korea, as well as for planning wartime logistics to support U.S. Army units deploying to Korea in the event of hostilities. Previous positions held include Commander, Army and Air Force Exchange Service, Dallas, Texas; G4, Eighth U.S. Army / J4, U.S. Forces Korea / Deputy C4, Combined Forces Command (ROK/US), Republic of Korea; and Vice Commander, Army and Air Force Exchange Service, Dallas, Texas.

During his 32 years of military experience, General Bates has held a variety of command and staff positions in both the continental United States and overseas, serving multiple tours of duty in a joint command environment. He has held both command and staff positions in supply, maintenance and field services organizations, and in the Army's Training and Doctrine Command.

Mr. Jeffrey Brooks

Mr. Jeffrey Brooks has a B.S. from the U.S. Military Academy and an M.S. in aerospace engineering from the U.S. Air Force Institute of Technology. Brooks is Level III certified in program management and test and evaluation and is an Army Acquisition Corps member. His military education includes the Field Artillery Officer Basic and Advanced Courses, Armor Officer Advanced Course, U.S. Army Command and General Staff College and Defense Systems Management College.

Maj. Gen. Andrew Busch

Maj. Gen. Andrew E. Busch is Commander, Ogden Air Logistics Center, Hill Air Force Base, Utah. The center provides worldwide logistics management, engineering, supply, contracting and depot maintenance for a wide variety of aircraft and munitions related platforms. He is responsible for four wings: the 75th Air Base Wing, 84th Combat Sustainment Wing, 309th Maintenance Wing and the 508th Aerospace Sustainment Wing. General Busch earned his commission in 1979 as a graduate of the U.S. Air Force Academy, Colorado Springs, Colo. He is a logistician with a core background in fighter aircraft maintenance. As an aircraft maintenance officer, he served in a variety of sortie production roles and commanded three maintenance squadrons. He also has experience in supply, transportation and acquisition issues at the wholesale logistics level. Prior to his current position, he was Commander, Defense Supply Center Richmond, Richmond, Va., a field activity of the Defense Logistics Agency. General Busch is Level III certified in life cycle logistics and Level II certified in program management. He is a designated Joint Qualified Officer.

Mr. Stephen Carr

Mr. Stephen Carr is currently serving on the staff of the Headquarter Department of the Army, Office of the Deputy Chief of Staff, G-4, Munitions Division, a position he has held since 22 April 2001. In his current position, he manages the programming and budgeting for the Army's Ammunition Readiness Program. These programs support the Army's mission as the Single Manager for Conventional Ammunition, ammunition maintenance, transportation, toxic chemical munitions storage and demilitarization of conventional ammunition.

Mr. Carr came to the Headquarters Staff from Headquarters, U.S. Army Forces Command, Ft. McPherson, Georgia, where he served as the FORSCOM, G-4, Ammunition Manager. He provided command oversight for 19 ammunition Supply Points, managed unit ammunition basic load requirements, developed ammunition logistics policy for subordinate units, served as the Command Career Program Manager for AMCP33, and operated the FORSCOM Class V Material Management Center.

Mr Carr entered the government service as an enlisted Soldier in January of 1973. During his 20 years of active duty he served in the Infantry, Nuclear Weapons Storage, Explosive Ordnance Disposal and Conventional Ammunition Storage. He is a veteran of Operation Desert Storm where he served as the Ammunition Storage Officer for the 8th Ordnance Company. In January of 1993, Mr. Carr Retired from the U.S. Army as a Chief Warrant Officer.

In February of 1993 he continued his service to the U.S. Army as a Civil Servant. In May of 1996, Mr. Carr was accepted into the Ammunition Management Career Program. His assignments as a civilian include Ammunition Accountable Officer, Installation

Ammunition Manager, and United States Army Forces Command Ammunition Logistics Manager.

His military awards include the Bronze Star, Meritorious Service Award (with oakleaf cluster), Navy Achievement Award, Parachutist Badge, and the Senior Explosive Ordnance Disposal Badge. His civilian awards include the Superior Civilian Service Award and the Commander's Award for Civilian Service. In 2006, Mr Carr was selected as the Ammunition Management Career Program's Senior Ammunition Manager of the Year.

Mr. Don Chrans

Mr. Don Chrans is Chief, Munitions Division, G-8 – Force Development. His assignments include Senior Program Analyst, Munitions Division, Deputy Chief of Staff for Programs, G-8, Headquarters Department of the Army, Military Assistant to the Assistant Secretary of the Army, Installations and Environment, Headquarters Department of the Army, Senior Logistics Planner, 19th Theater Support Command, Ordnance Organizational Integrator, Deputy Chief of Staff for Operations G-3, Commander, Slovonki Brod Base Camp, Croatia, Commander, Maintenance Troop, 3rd Armored Cavalry Regiment, Secretary of the General Staff and Maintenance Officer, Army Materiel Command – Europe, Commander, Headquarters and Light Maintenance Company and MATO, 725th Main Support Battalion, 25th Infantry Division, Aide-de-Camp, Commanding General, US Army Ordnance Center and School. His awards and decorations Legion of merit, Meritorious Service Medal (5 OLC), Army Commendation Medal (3 OLC), Army Achievement Medal, Armed Forces Expeditionary Medal, NATO Medal, Overseas Service Ribbon (4)

Ms. Karen Davies

Karen Davies is Senior Vice President and President, ATK Armament Systems, for Alliant Techsystems (ATK), a premier aerospace and defense company with more than 18,000 employees and revenue of approximately \$4.8 billion.

Karen was named to her current position in 2010. ATK Armament Systems has core competencies in efficient, high-rate manufacturing; energetics processing; integrated weapon systems; gun-launched, guided weapons; global supply chain management; and facility management.

Karen previously served for eight years as Vice President and General Manager for ATK Small Caliber Systems at the Lake City Army Ammunition Plant. During her tenure, she tripled ammunition production and engaged the company in the supply of non-standard weapons and ammunition, and also implemented the U.S. Army's modernization program.

A 30-year veteran of ATK, Karen has a strong background in program management and operations. She has held key leadership posts in material management, strategic planning, and business and contracts management. Previous positions include Vice President, Strategic Programs for ATK's Aerospace Group and Vice President, Information Technology/Chief Information Officer for ATK.

Mr. Jose Gonzalez

Mr. Jose Gonzalez is currently serving as Acting Deputy Director, Land Warfare and Munitions within the Office of the Under Secretary of Defense (Acquisition, Technology and Logistics), where he provides policy and oversight of the DoD's land warfare and munitions portfolio. Mr. Gonzalez became permanently employed with the Office of the Secretary of Defense (OSD) in 2001. He has taken on a wide variety of assignments while in OSD, including special assignments in the areas of C4I, munitions, and Homeland Defense. Mr. Gonzalez serves as the U.S. Key Delegate to the NATO Conference of National Armaments Directors, Ammunition Safety Group (AC 326).

Mr. Gonzalez has worked for the Department of Defense since 1985. He started his career in the Defense industry at Vitro Corporation, Silver Spring, MD, as a Software Engineer for the U.S. Navy's TARTAR Mk 14 Weapon Direction System. In 1989, he entered Federal government service at the U.S. Navy's Research & Development laboratory, Naval Surface Warfare Center, Dahlgren, VA. While at the laboratory, he served as Technical Direction Agent and system engineer for the U.S. Navy's Mk 41 Vertical Launching System, facility manager for the Navy's Program Assurance Facility, Head of the Advanced Launching Systems Group, and Head of the Advanced Control Systems Engineering Branch. During this time he took on two developmental assignments, first as the Combat Systems Department Head for the U.S. Navy's Smart Ship Project, and second as a Staff Specialist in OSD, supporting the office of Naval Warfare.

BGen Francis Kelley Jr.

Brigadier General Kelley, a native of Philadelphia, Pa., graduated from the University of Notre Dame in 1983 with a degree in Aerospace Engineering and was the recipient of the Naval ROTC Donald R. Bertling Award. Upon completion of Officer Candidate School (OCS), he was commissioned a Second Lieutenant in the United States Marine Corps.

In February 1984 he completed The Basic School and received orders to Pensacola, Fla., for flight training. He then proceeded to the 453rd Flight Training Squadron (FTS) at Mather Air Force Base, Calif., for electronic warfare training where he was a distinguished graduate and the recipient of the Colonel Mike Gilroy Award for leadership and training excellence.

After completing EA-6B Prowler training at Whidbey Island, Wash., Brigadier General Kelley reported to Marine Tactical Electronic Warfare Squadron 2 (VMAQ-2), where he participated in the Unit Deployment Program, in addition to Operations Desert Shield and Desert Storm as the Contingency Plans and Tactics Officer.

He received orders to Air Test and Evaluation Squadron (AIRTEVRON) FIVE (VX-5), where he was the Electronic Warfare Branch Head. He then reported to Naval Air Systems Command (NAVAIRSYSCOM) as the Avionics Systems Project Officer (ASPO) for the EA-6B.

He reported to the Pentagon as an action officer to the Deputy Assistant Secretary of the Navy(DASN) for Expeditionary Forces Program.

In August 2007 Brigadier General Kelley was assigned to the position of MCSC's Program Manager for Training Systems (PM TRASYS) in Orlando, Fla. In August 2009 Brigadier General Kelley was reassigned as MCSC's Chief of Staff and became Commander in July 2010.

Mr. Dick Ladd

Richard Ladd became Chairman of Robison International, Inc., a Washington, D.C. -based defense consulting firm in 2007. Present and former clients include major domestic and international defense contractors plus several smaller, focused high technology firms. Prior to becoming Chairman, Dick served as President for 15 years and Vice President of Robison International for three years following nearly six years experience on the professional staff of the Senate Appropriations Subcommittee on Defense and as a Deputy Under Secretary of the Army. While on the Senate staff, he was responsible for the procurement budget and related policy matters.

Dick is also a retired Army officer with background in logistics, systems analysis and program management.

Mr. Brett Lambert

Brett B. Lambert joined the US Department of Defense (DoD) in 2009 as Deputy Assistant Secretary of Defense for Industrial Policy in the Office of the Under Secretary of Defense (Acquisition, Technology and Logistics) (OUSD (AT&L)). Mr. Lambert serves as the principal advisor to the USD (AT&L) on all matters relating to the defense industrial base, including industrial capabilities and assessments; defense industry mergers, acquisitions and consolidation; preservation of essential industries and technologies; and other related matters.

Prior to joining the DoD, Mr. Lambert was a Managing Director for the Civitas Group. In this role he provided strategic advisory services for companies operating in the intelligence, homeland defense, and national security sectors. From 1989 until 2007, Mr. Lambert held positions of increasing responsibility at DFI International, a national security consultancy he built with the founder. Mr. Lambert assisted in the sale of DFI 2007.

At the conclusion of his tenure with DFI, Mr. Lambert held the titles of Executive Vice President of DFI International and Managing Director of DFI Investment Partners. He was also the company's Ethics Officer and served as a member of the Board of Directors.

Mr. Lambert specialized in technology assessments, strategic planning, and market analyses for defense, intelligence, and space companies. His engagements assisted client's identification and quantification of new or evolving markets, described the political and business environments in which they operated, and provided execution guidance to ensure the implementation of successful ventures. Mr. Lambert also worked closely with a number of leading venture funds, merchant banks, and private equity firms in support of their national security portfolio companies.

While with DFI, Mr. Lambert also led the company's work with first-tier defense firms, financial institutions, and private equity organizations in merger and acquisition market advisory services. Throughout his time with DFI, Mr. Lambert was engaged in scores of acquisitions, international joint ventures, offset arrangements, and foreign equity investments representing a wide variety of both buyers and sellers in the national security space.

BG Jonathan Maddux

As Program Executive Officer Ammunition, Brigadier General Jonathan A. Maddux leads the mission to develop and procure conventional and leap-ahead munitions to increase combat power for the Warfighter. BG Maddux's previous acquisition assignments include: Chief of Staff, Office of the Assistant Secretary of the Army Acquisition, Logistics & Technology (ASA(ALT)); Project Manager Network Systems Integration, Future Combat Systems; Product Manager Combat Identification; Executive Officer, ASA(ALT); Deputy for System Management; Joint Surveillance and Target Attack Radar System and Land Warrior; Department of the Army System Coordinator; and Communications Director, Army Space Program Office.

BG Maddux's command and staff assignments include Squad Leader, 82nd Airborne Division Military Police Company; Platoon Leader, 24th Signal Battalion; Aide-de-Camp for the Commander, Information Systems Engineering Command; Communication and Electronic staff officer, 2nd Battalion, 5th Field Artillery, 1st Infantry Division (Forward); Company Commander, 38th Signal Battalion, 56th Field Artillery Command (Pershing II); Platoon Trainer, 4th Battalion, Ranger Training Brigade; and Commander, Signal Detachment, 75th Ranger Regiment.

BG Maddux holds two baccalaureate and three master degrees culminating in a Masters in Telecommunications from the University of Colorado (Boulder). His military education includes Signal Officer Basic and Advanced Courses, Project Management Course, Defense Systems Management College, Army Command and General Staff College, and the Army War College.

His awards include the Legion of Merit (2 OLC), Meritorious Service Medal (3 OLC), Army Commendation Medal (5 OLC), Army Achievement Medal (1 OLC), Southwest Asia Service Medal, Kuwait Liberation Medal, Good Conduct Medal, Master Parachutist Badge, Korean and French Parachutist Badge, Air Assault Badge, Army Staff Identification Badge and the coveted Black and Gold Ranger Tab.

COL Rick Mason

Colonel Rick Mason is currently serving as Chief of the Army Munitions Management Division for the Army Deputy Chief of Staff for Operations (G-3). His current responsibilities include Army staff integrator for munitions management, munitions operational readiness and development of the Army's total munitions requirements.

Previous key assignments include Commander, Blue Grass Army Depot from June 2005 until July 2008, where he commanded over 1,500 personnel providing depot and operational level conventional munitions and chemical defense equipment support to the Department of Defense; Chief of Support for the Multinational Force and Observers (MFO) responsible for the planning and execution of logistics support for an 11-nation, 2,500-strong military and civilian force operating in the Sinai, Egypt under the Camp David Peace Accords; He concurrently served as Deputy Commander for the U.S. Task Force Sinai, a brigade-size command consisting of two battalions and a headquarters element; and Commander of the 191st Ordnance Battalion and Miesau Army Ammunition Depot in Germany which provided munitions, parachute rigging, explosive ordnance disposal, cargo transfer and deployment support for all Army units in Europe.

Other assignments include Department of the Army staff officer (G4 - Logistics) responsible for various munitions management policies and critical munitions support planning for Operation Iraqi Freedom, Logistics Plans Officer for the Allied Command Europe Rapid Reaction Corps where he participated in Bosnia and Kosovo operations, Chief of the Brigade Materiel Management Center and Support Operations Officer for the 194th Separate Armored Brigade at Fort Knox, Kentucky; Commander of the 60th Ordnance Company in Germany; the G4 Missile and Munitions staff officer for both V Corps in Germany and I Corps at Fort Lewis, Washington; Ammunition Supply Point Control Officer at Fort Lewis; and as a Munitions Materiel Management Officer at McAlester Army Ammunition Plant, Oklahoma.

RDML James McManamon

A native of Chicago, Rear Admiral Jim McManamon, graduated in 1980 from Northwestern University. He was a member of the NROTC Unit and was commissioned an ensign in the United States Navy in June 1980.

McManamon's sea tours include USS Dahlgren (DDG 43); operations officer, USS Hawes (FFG 53); operations officer, USS MAHAN (DDG 42); executive officer, USS Vincennes (CG 49) and commanding officer, USS Milius (DDG 69). Milius was awarded the Battle E, Surface Ship Safety Award and the Meritorious Unit Commendation during his tour.

His shore tours include the NROTC Unit, University of South Carolina, Columbia, S.C.; the staff of the Chief of Naval Operations, (OP-75), and (N865); Afloat Training Group, Pacific; program executive office Theater Surface Combatants (PEO TSC) as chief staff officer/executive assistant. He was then assigned as PMS 400F, deputy for Fleet and upon the PEO/NAVSEA re-organization, the program manager for surface combatants in PEO Ships. Then he was assigned as naval aide and executive assistant to the Assistant Secretary of the Navy - Research, Development and Acquisition (ASN RDA). His first job as a flag officer was deputy commander for Warfare Systems Engineering, SEA-06, Naval Sea Systems Command. He is now serving as the deputy commander, Surface Warfare (SEA 21) at Naval Sea Systems Command. McManamon serves as the lead of the Future Readiness Team for the Surface Warfare Enterprise. He also serves on the SWE Board; as a member of the SWE Executive Committee and as the executive secretary for Distance Support Governance Board. Rear Admiral McManamon is also assigned as the Director, Ordnance Safety, SEA 00V.

McManamon's personal decorations include the Legion of Merit (with gold star), Meritorious Service Medal (with two gold stars), the Navy Commendation Medal (with two gold stars), Navy Achievement Medal (with two gold stars) and various service awards

Dr. Gerardo Melendez

Dr. Gerardo J. Melendez was appointed into the Senior Executive Service in February 2005. Since June 2010, Dr. Melendez is serving as the Director for Armaments Research, Development and Engineering Center (ARDEC). He is responsible for management of over 3,600 people, for direction of Armaments programs and for effective functioning of the Center. He is accountable for the progressive research of technology, the development of future systems concepts, the effective engineering development, and the phase-in to production of materiel which is reliable, maintainable, and producible at a cost commensurate with performance. Dr. Melendez assures that systems evaluation and armaments concepts are effectively provided at all phases of the research, development, engineering and production processes.

Dr. Melendez previously served as the Director of the Command and Control Directorate within the Communications-Electronics Research, Development and Engineering Center (CERDEC). He was responsible for the research and development of technology, capabilities and systems in the areas of advanced battle command, portable and mobile power, environmental control, and navigation for the US Army. He was also responsible for the quick-reaction integration of C4ISR systems into prototype military platforms.

Dr. Melendez also served as the Deputy Project Manager for the Future Combat System Network Systems' Integration. He joined the then nascent Project Management Office in July 2002, where he grew a group of 5 employees into a 140-person organization responsible for the development, integration and fielding of the communications, computers, command, control, intelligence, surveillance, reconnaissance, and middleware capabilities for the Army future forces.

In 1983 Dr. Melendez joined the US Army Communications and Electronics Command as an electronics engineer to conduct research in the area of digital signal processing for target identification and data fusion. Because of his contributions in those fields he received several awards, including the RDEC's Director Award for Technical Excellence in 1989. Dr. Melendez was awarded a DA Fellowship in 1987, which allowed him to initiate doctoral studies in electrical engineering at Drexel University. In 1994 Dr. Melendez became

the Chief of the Automatic Target Recognition Team for Product Manager Tactical Endurance Synthetic Aperture Radar (TESAR) with responsibility for the development of target recognition algorithms for synthetic aperture radar. In 1996 he joined the US Army Project Manager for Combat Identification to lead the execution of the Army and OSD flagship research and development programs in combat identification, which included the Joint Combat Identification Advanced Concepts Technology Demonstration. In 1996 he became the Chief of the Battlespace Identification Branch and assumed responsibility for research and development of all target identification mission areas for the Army. He was awarded the CECOM Leader of the Year Award in 1998 and the Commander's Civilian Service Award for his leadership and accomplishments in the Combat ID arena. In 1999 Dr. Melendez became the Chief Engineer for the Electronic Combat Division with responsibility for the technical and programmatic aspects of the research and development of protection and survivability systems for US Army platforms. In 2001 he was assigned to build and lead the Combat Identification Special Projects Office at the Directorate level.

BG Gustave Perna

Brigadier General Gustave F. Perna assumed command of Joint Munitions & Lethality Life Cycle Management Command and Joint Munitions Command on November 16, 2010.

As an Infantry Officer, Brigadier General Perna served in the 1st Battalion, 27th Infantry as a Rifle Platoon Leader, Rifle Company Executive Officer and Battalion S4 at Schofield Barracks, Hawaii. He then transferred to the Ordnance Corps and served as the Wheel Vehicle Branch and Division Chief, commanded B Company, 143d Ordnance Battalion, and served as Aide de Camp to the Chief of the Ordnance Corps, Aberdeen Proving Ground, Maryland.

Brigadier General Perna's next assignment led him to the 13th Corps Support Command, Fort Hood, Texas where he deployed immediately to Somalia as a staff member of the Joint Task Force Support Command. Upon return to Fort Hood, he was assigned to the COSCOM G4 staff as the Maintenance Officer and completed his tour serving as the 544th Maintenance Battalion Support Operations Officer and Battalion Executive Officer. Brigadier General Perna returned to overseas duty in Saudi Arabia as the Eastern Region Logistics Advisor.

Upon his second return to Fort Hood, he was assigned to the 1st Cavalry Division as the DISCOM Executive Officer and later the Division G4 while the unit deployed to Bosnia. Brigadier General Perna completed that tour as the Deputy Commanding Officer for the 64th Corps Support Group.

Brigadier General Perna then commanded the 64th Forward Support Battalion, 3rd Brigade, 4th Infantry Division at Fort Carson, Colorado; he deployed the battalion to combat operations during OIF I. Following battalion command, he served as the Ordnance Branch Chief, Human Resources Command. Brigadier General Perna then served as the Commander of the 4th Sustainment Brigade; he deployed the brigade to combat operations during OIF 05-07.

Following Brigade Command, Brigadier General Perna served as the Executive Officer to the Director of DLA, Fort Belvoir, Virginia. In this capacity, he directly supported the Director's mission of providing the Army, Navy, Air Force, Marine Corps and other federal agencies with logistics, acquisitions and technical services support.

Brigadier General Perna then assumed command of the Defense Supply Center Philadelphia, Defense Logistics Agency. DSCP annually bought over \$14.5 billion worth of food, clothing, textiles, medicines, medical supplies, construction and equipment items for America's warfighters and other customers worldwide.

Brigadier General Perna completed his third tour in Iraq as the Director of Logistics, J4, for United States Forces-Iraq. He was responsible for sustainment plans, policies, and procedures for strategic, operational and tactical logistics support and services to sustain over 190K coalition, joint forces and civilians.

LTG William Phillips

LTG William N. (Bill) Phillips became the Principal Military Deputy to the Assistant Secretary of the Army (Acquisition Logistics and Technology) and Director, Acquisition Career Management on 1 February 2010. In his previous assignment, he was the Commanding General, Joint Contracting Command-Iraq/Afghanistan in Baghdad, Iraq from February 2009 to January 2010. Prior to that assignment, LTG Phillips served as Commanding General, Picatinny Arsenal, New Jersey; Program Executive Officer Ammunition; and Commander, Joint Munitions and Lethality Life Cycle Management Command from May 2007 to January 2009. He also served as Deputy Program Executive Officer, Aviation, Redstone Arsenal, Alabama.

Commissioned a Second Lieutenant of Field Artillery on 28 May 1976, LTG Phillips entered Active Duty at Fort Sill, Oklahoma serving with 3rd Battalion, 18th Field Artillery. In 1979, he completed Rotary Wing Aviation Training at Fort Rucker, Alabama and was assigned to 25th Infantry Division, Schofield Barracks, Hawaii. He was later assigned to United States Army Aviation Center, Fort Rucker joining the Aviation Branch. In 1986, LTG Phillips completed a Training With Industry tour with McDonnell Douglas Helicopter Company in Mesa, Arizona and was assigned to Army Aviation Systems Command as the Contracting Officer for AH-64 Apache, AH-1, UH-1 aircraft, and Assistant Program Manager for Longbow Apache. He deployed as Chief of Contracting, Joint Task Force Bravo, Honduras. In 1991 he was assigned as Aviation Brigade S1, 2nd Infantry Division, Korea. In 1992, LTG Phillips was assigned as Chief of Flight Operations, Defense Plant Representative Office (DPRO), Boeing Helicopters, Philadelphia. From July 1994 to June 1996, he commanded DPRO McDonnell Douglas, Huntington Beach. In June 1997, LTG Phillips was assigned as Director for Information Management for the Assistant Secretary of the Army (Research, Development and Acquisition) and managed the Army's Procurement Information Systems. He commanded Defense Contract Management San Francisco from September 1999 to June 2001. From July 2001 to August 2004 he served as Director, Unit Set Fielding and Acting Director of Integration for the Army G-8.

Mr. Barry Pike

Mr. Barry J. Pike assumed duties as the Chief of Staff of the U.S. Army Program Executive Office for Missiles and Space (PEO MS) in January 2005. In this position, he leads the PEO staff and assists the PEO in managing the development, integration, testing, production, fielding, and sustainment of assigned systems. The systems include PATRIOT, MEADS, JTAGS, JLENS, SLAMRAAM, Sentinel, Stinger, Avenger, Integrated Air and Missile Defense, GMLRS, ATACMS, HIMARS, NLOS-LS, PAM, JAGM, Hellfire, Hydra, Javelin, TOW, and ITAS.

Mr. Pike has over 24 years of Army acquisition experience in national missile defense (NMD), theater air and missile defense, anti-satellite (ASAT), and tactical missile systems. He began his government career in 1985 as a systems engineer with the U.S. Army Ballistic Missile Defense Systems Command, now the U.S. Army Space and Missile Defense Command (SMDC).

In 1988 while assigned to SMDC, Mr. Pike led the Army's ASAT Initiative and was assigned as the Army focal point for ASAT management. He led the program through the Milestone 0 and Milestone I Defense Acquisition Board (DAB) Reviews resulting in the initiation of the ACAT 1D Kinetic Energy ASAT (KE ASAT) program and the establishment of the KE ASAT Joint Program Office (JPO) led by BG Morgan Jellett. In the KE ASAT JPO, Mr. Pike led various systems engineering teams.

In 1991, Mr. Pike was selected for a prestigious one-year developmental assignment in the Office of the Under Secretary of Defense for Acquisition at the Pentagon. As an OSD Staff Specialist, he led the THAAD Milestone I DAB coordination efforts across the Services, Joint Staff, and OSD Staff. After returning to Huntsville, Mr. Pike served in various leadership positions in the Army NMD Program Office from 1992 through 1999 including the Deputy Program Manager (DPM), Chief of the Program Acquisition and Management Division, and Chief of the System Engineering and Analysis Branch. In the DPM position, he shared responsibility with the SES Program Manager in directing the development, testing, integration, and deployment planning of the ground-based NMD elements including the ground based interceptor, ground-based radar, and associated battle management/command, control, and communications.

Mr. Jim Shields

Mr. James Shields became the Deputy Program Executive Officer for Ammunition in November 2009. The PEO Ammunition mission is to execute life cycle management of munitions and serve as the Department of Defense Single Manager for Conventional Ammunition. With an FY10 operating budget of \$3.9 billion, the PEO manages conventional ammunition for all our armed services and certain allied partners and equips Soldiers with mortars, countermine and counter IED systems. Mr. Shields is a member of the Senior Executive Service, Army Acquisition Corps and is certified at the highest level in Program Management.

Prior to his assignment as the DPEO Ammunition, Mr. Shields was the Joint Program Manager for the Lightweight 155mm Howitzer (LW155). From Apr 05 – Nov 09 he was responsible for the development, production, fielding and sustainment of the newest artillery system in service with both the Army and Marine Corps. The LW155 incorporates several firsts for towed artillery; all of the major structures are fabricated from high strength titanium alloy enabling a 40% weight reduction, it incorporates a state-of-the-art digital fire control system for improved accuracy and responsiveness, and it has fully integrated the hardware and software necessary to program and fire the latest generation of 155mm precision munitions in service with the Army. In addition to the LW155 Mr. Shields was responsible for the life cycle management of other towed artillery systems to include the M119A2, M198, the M111 Improved Position and Azimuth Determining System. Mr. Shields led the effort to restart production of the M119A2 after being out of production for more than 10 years, successfully ramped up deliveries to support the Army's urgent equipping needs and initiated a program to incorporate digital fire control.

Prior to his work as both the Joint Program Manager and Deputy Program Manager for the LW155 program Mr. Shields was the Chief of the Systems Engineering Division for the Army's Crusader self-propelled artillery system. From Aug 97 – Dec 99 he was responsible for managing, directing, controlling and evaluating all aspects of systems engineering and systems integration activities for the ACAT 1D program. He also served as the Acting Product Manager, Deputy Product Manager and the Lead Armaments Engineer on the Crusader Firepower and Resupply Integrated Product Development Team. His responsibilities included the development of a wide range of technologies being developed for the Crusader system (e.g. laser ignition, advanced cannon, propellant and fuze design, ammunition handling, composite structures, thermal management, etc...).

Prior to his work on Crusader, Mr. Shields was a team leader on the Wide Area Mine (WAM) and a mechanical systems specialist in the International Programs Office for the Autonomous Precision Guided Munitions (APGM) where he was responsible for directing the warhead and airframe development efforts. Mr. Shields helped develop an improved warhead for the M712 Copperhead precision munition and was the project engineer on an in-house effort which demonstrated improved performance against advanced armors.

COL Scott Turner

Colonel Turner was born on March 5, 1964 in Gainesville, Florida. In 1986, he received his Regular Army commission as a Second Lieutenant in the Field Artillery, graduating with a Bachelor of Science degree in Biology from Florida Southern College in Lakeland, Florida. In 2009, Colonel Turner received a Master of Science degree in National Resource Strategy from the Industrial College of the Armed Forces at Fort Lesley J. McNair. Additionally, Colonel Turner is a graduate of the Field Artillery Officer Basic and Advanced Courses as well as the Defense Acquisition University's Program Manager's Course, Executive Program Manager's Course, and the Senior Acquisition Course.

Colonel Turner's most recent acquisition assignment was as Deputy Director, FCS Program Integration, Office of the Assistant Secretary of the Army for Acquisition, Logistics, and Technology from July 2007 to July 2008. From September 2004 to July 2007, he

served as Product Manager, FBCB2-Blue Force Tracking. From January to August 2004, Colonel Turner served as a Department of the Army Systems Coordinator for FCS Unmanned and Complementary Systems. From September 2002 to January 2004, he served as Resource Integration Officer, Objective Force Task Force. From July 2000 to July 2002, he served as Assistant Project Manager, Crusader Systems Engineering & Integration. From July 1999 to July 2000, he served as Deputy Chief, TACOM Saudi Infantry Corps Modernization Office in Riyadh, Kingdom of Saudi Arabia. Colonel Turner's initial acquisition assignment was as Field Artillery Technology Manager at ARL from February 1997 to June 1998. Additionally, from April 1991 to December 1994, Colonel Turner served as 4th Division Artillery S3 Operations Duty Officer, Emergency Action Manager, Counter Fire Officer, and finally as Commander, A Battery, 26th Field Artillery (Target Acquisition). He also served as Special Weapons Field Storage Site Platoon Leader, COMSEC Custodian, and Emergency Action Manager while assigned to the 36th USAFAD, Hemau, West Germany, from July 1987 to September 1990.

Colonel Turner is a graduate of the Combined Arms and Services Staff School and Command & General Staff College. Colonel Turner's awards include the Meritorious Service Medal (6th Oak Leaf), Army Commendation Medal (2nd Oak Leaf), Army Achievement Medal (2nd Oak Leaf), National Defense Service Medal (Oak Leaf), and the Overseas Service Ribbon (Two Tours). He is authorized to wear the Parachutist Badge.

COL Danny Wiley

In 1987 COL Danny A. Wiley graduated from Appalachian State University in Boone, North Carolina with a Bachelor of Science Degree in Information Systems and was commissioned into the regular army. He has earned a Masters in Computer Science at the Naval Post Graduate School and a Masters in Strategic Studies at the U.S. Army War College. His military education includes the Air Defense Officer Basic and Advanced Courses, the United States Army Combined Armed Service Staff School, the United States Army Command and General Staff College, the Defense Acquisition University (DAU) for Level 3 Program Management, Communications/Computer Systems, the DAU Program Managers course and the U.S. Army War College.

Prior to this assignment, COL Wiley spent 13 years in a variety of troop leading and staff assignments. Initially he served as a Chaparral and STINGER Platoon Leader, and then as Aide de Camp during Operation Desert Storm, with the 1st Armored Division. He later commanded an Air Defense Battery in the 4th Infantry Division at Fort Carson, CO. Following his educational assignment at Naval Post Graduate School, he returned to Europe in 1996 to serve on the J6 Communications Staff and J3 Operations Staff at the US European Command in Stuttgart, Germany. Subsequently, COL Wiley attended the Command and General Staff College from 1999-2000, and was assigned to the Acquisition Corps, and served from 2000-2003 as an Assistant Product Manager for the Battle Manager and Missile Products in the Terminal High Altitude Area Defense (THAAD) program, PEO Missiles and Space. From 2003-2005, COL Wiley served as an Associate Professor for the Army Logistics Management College. From 2005-2008, COL Wiley served as the Product Manager for Air and Missile Defense Command and Control Systems, PEO Command Control Communications Tactical. From 2008-2009, COL Wiley served as the executive officer to the Deputy for Acquisition and Systems Management for the Assistant Secretary of the Army for Acquisition, Logistics and Technology (ASA(ALT)) at the Pentagon.

COL Wiley's awards and decorations include the Legion of Merit, Bronze Star Medal, two Defense Meritorious Service Medals, two Army Meritorious Service Medals, the Army Commendation Medal, the Defense Service Achievement Medal, two Army Achievement Medals, Airborne Badge, and the Army Staff Identification Badge.

Mr. Michael Wilson

Michael S. Wilson is a Vice President of General Dynamics and President of its Ordnance and Tactical Systems business unit. General Dynamics has leading market positions in business aviation, information systems, shipbuilding and marine systems, and land and amphibious combat systems. The company is a leading supplier of sophisticated defense systems to the United States and its allies. It is headquartered in Falls Church, Virginia, employs approximately 90,000 people worldwide, and has four main business segments: Aerospace, Combat Systems, Advanced Information Systems and Marine Systems. 2010 revenues were \$32.7 billion.

Mr. Wilson joined Olin Corporation's Winchester Division in 1969 and was promoted to operational positions of increasing responsibility. In 1982, he was appointed Director, Business Planning and Information Systems for the Winchester Division.

In 1985, Mr. Wilson transferred to Olin's Ordnance Division as Director, Business Development and Planning. In 1988, he was promoted to Vice President, Programs. In this capacity, he directed all Ordnance Division programs, including 120mm tank ammunition, propellants, combustible products, medium caliber and howitzer ammunition. In 1990, Mr. Wilson was appointed Vice President, Marketing where he directed all strategic planning, international programs, business development and division marketing activities. In 1991, he was appointed Vice President, Tank Ammunition with responsibilities for all large caliber business activities.

On January 1, 1997, when Olin Corporation spun off its Ordnance and Aerospace Divisions into Primex Technologies, Inc., Mr. Wilson was elected a company Vice President and President of the Ordnance and Tactical Systems Division.

In January 1999 he was elected an Executive Vice President. In January 2001, after the acquisition of Primex Technologies by General Dynamics, Mr. Wilson was appointed Sr. Vice President, General Dynamics Ordnance and Tactical Systems. In May 2001, he was appointed President, General Dynamics Ordnance and Tactical Systems and in October was elected a company Vice President.

COL Jeff Wilson

Colonel Jeffrey K. Wilson is an Ordnance Officer and a member of the Army Acquisition Corps. COL Wilson was commissioned in 1982 as a Distinguished Military Graduate of the University of Wyoming's Army ROTC program. Over the past 27 years, he has served in a variety of logistics and acquisition positions, including Class IX Supply Platoon Leader for the 197th Infantry Brigade and Ammunition Supply Platoon Leader for the 608th Ordnance Company at Ft. Benning, GA; Commander of the 74th Ordnance Detachment (Explosive Ordnance Disposal (EOD)), Ft. Riley, KS; Ordnance Research and Development Officer for the Science and Technology Center - Europe in Frankfurt, Germany; Assistant Project Manager for Tank and Medium Caliber Ammunition at Picatinny Arsenal, NJ; Department of the Army Staff Coordinator for Tank Ammunition and Executive Officer for the Assistant Secretary of the Army for Acquisition, Logistics and Technology, the Pentagon; Product Manager for the Excalibur Precision Guided, Extended Range 155mm Artillery Projectile, Picatinny Arsenal, NJ; and Director for Research, Development and Acquisition Management and Faculty Instructor at the U.S. Army War College, Carlisle, PA. COL Wilson's last position was at Fort Lee, VA, as the Project Manager for the Global Combat Support System – Army, a fully integrated information management system for tactical logistics and an ACAT ID acquisition program. In his current position, COL Wilson is the Project Director, Joint Services, PEO-Ammunition and oversees the modernization of the Army's six Government Owned, Contractor Operated (GOCO) ammunition plants and the demilitarization of conventional ammunition for the Department of Defense. He manages an annual budget of approximately \$250M.

Notes

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**THANK YOU FOR ATTENDING
THE 2011 MUNITIONS EXECUTIVE
SUMMIT**

WE HOPE TO SEE YOU IN 2012!

**SAVE THE DATE!!!!
2012 MUNITIONS EXECUTIVE SUMMIT
FEBRUARY 27 - MARCH 1
ARIZONA GRAND RESORT
PHOENIX, AZ
EVENT #2650**



2011 Munitions Executive Summit

OSD Perspective

Jose M. Gonzalez

OUSD (Acquisition, Technology & Logistics)
Deputy Director, Portfolio Systems Acquisition,
Land Warfare and Munitions





Secretary of Defense

Hon. Robert Gates



Deputy Secretary of Defense

Hon. William Lynn

**Under Secretary of
Defense for Acquisition,
Technology & Logistics**

Hon. Ashton Carter



Principal Deputy :

Hon. Frank Kendall



Secretary of the Army

Hon. John McHugh

Secretary of the Navy

Hon. Ray Mabus

Secretary of the Air Force

Hon. Michael Donley

**Asst. Sec. of Defense
(Acquisition)**

Vacant

**DASD, Portfolio
Systems
Acquisition**

Mr. Dave Ahern



**DASD, Industrial
Policy**

Mr. Brett Lambert



**Director, Land Warfare &
Munitions**

Mr. Jose Gonzalez



Discussion Topics

- Acquisition Efficiency Initiatives
- Budget Trends
- Munitions Interest Areas
 - Insensitive Munitions
 - Joint Insensitive Munitions Technology Program
 - Joint Fuze Technology Program
 - Joint DoD/DOE Munitions Program
 - Conventional Weapons Roadmap
 - Critical Energetics Materials (new initiative underway)
 - DoD Ordnance Technology Consortium (DOTC)

Acquisition Efficiency Initiatives

- **Target Affordability and Control Cost Growth**
- **Incentivize Productivity & Innovation in Industry**
- **Promote Real Competition**
- **Improve Tradecraft in Acquisition of Services**
- **Reduce Non-Productive Processes and Bureaucracy**

Acquisition Efficiency Guidance Roadmaps

Target Affordability and Control Cost Growth

- Mandate affordability as a requirement
- Implement “should cost” based management
- Eliminate redundancy within warfighter portfolios
- Achieve Stable and economical production rates
- Manage program timelines

Incentivize Productivity & Innovation in Industry

- Reward contractors for successful supply chain and indirect expense management
- Increase Use of FPIF contract type
- Capitalize on progress payment structures
- Institute a superior supplier incentive program
- Reinvigorate industry’s independent research and development

Promote Real Competition

- Emphasize competitive strategy at each program milestone
- Remove obstacles to competition
 - Allow reasonable time to bid
 - Require non-certified cost and pricing data on single offers
 - Enforce open system architectures and set rules for acquisition of technical data rights
- Increase small business role and opportunities

Improve Tradecraft in Acquisition of Services

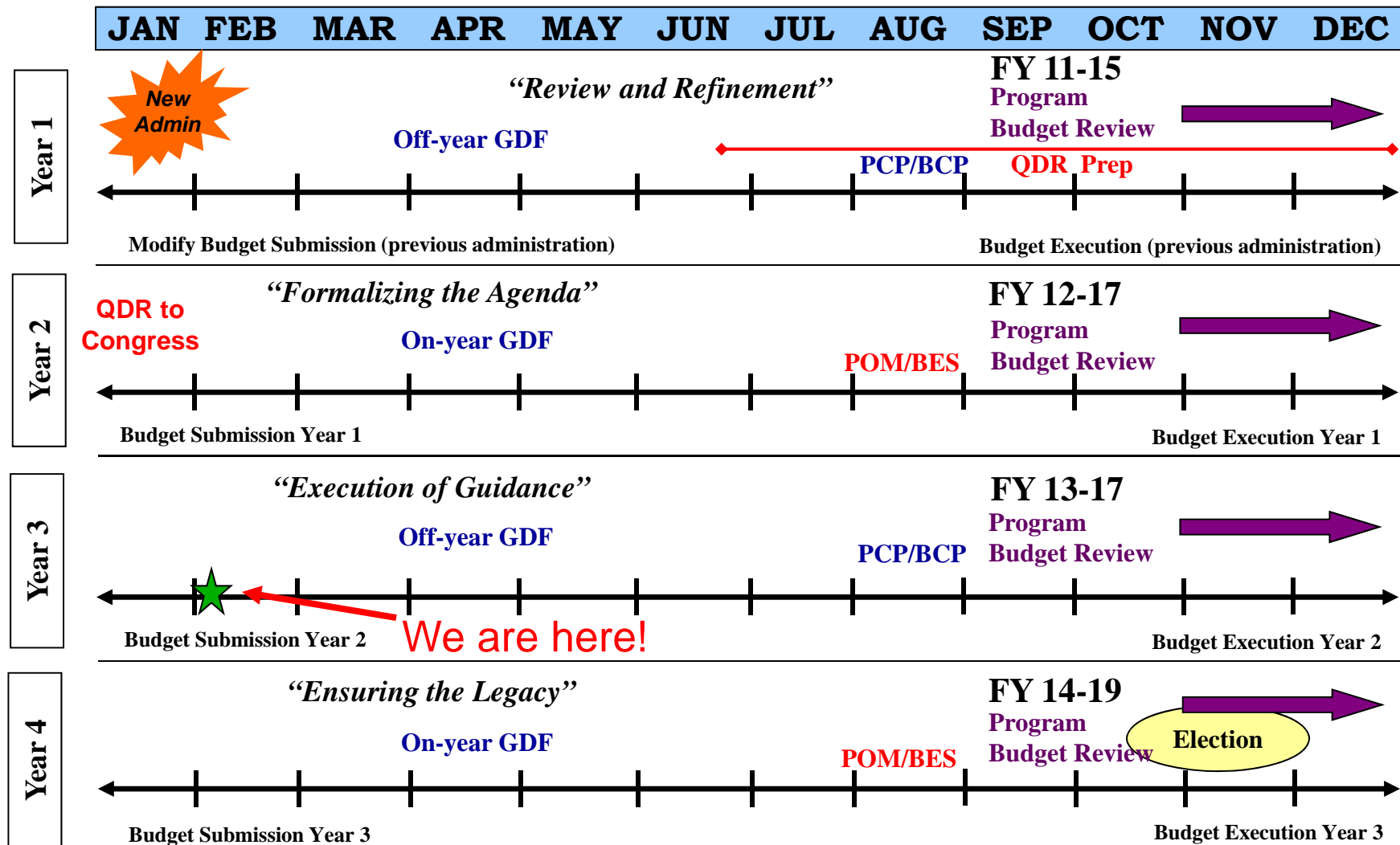
- Assign senior managers for acquisition of services
- Adopt uniform services market segmentation (taxonomy)
- Address causes of poor tradecraft
 - Define requirements and prevent creep
 - Conduct market research
- Increase small business participation

Reduce Non-Productive Processes and Bureaucracy

- Reduce frequency of OSD level reviews
- Work with Congress to eliminate low value added statutory requirements
- Reduce the volume and cost of Congressional Reports
- Reduce non-value added requirements imposed on industry
- Align DCMA and DCAA processes to ensure work is complementary
- Increase use of Forward Pricing Rate Recommendations (FPRRs) to reduce administrative costs

Budget Trends

Planning, Programming, Budgeting, and Execution

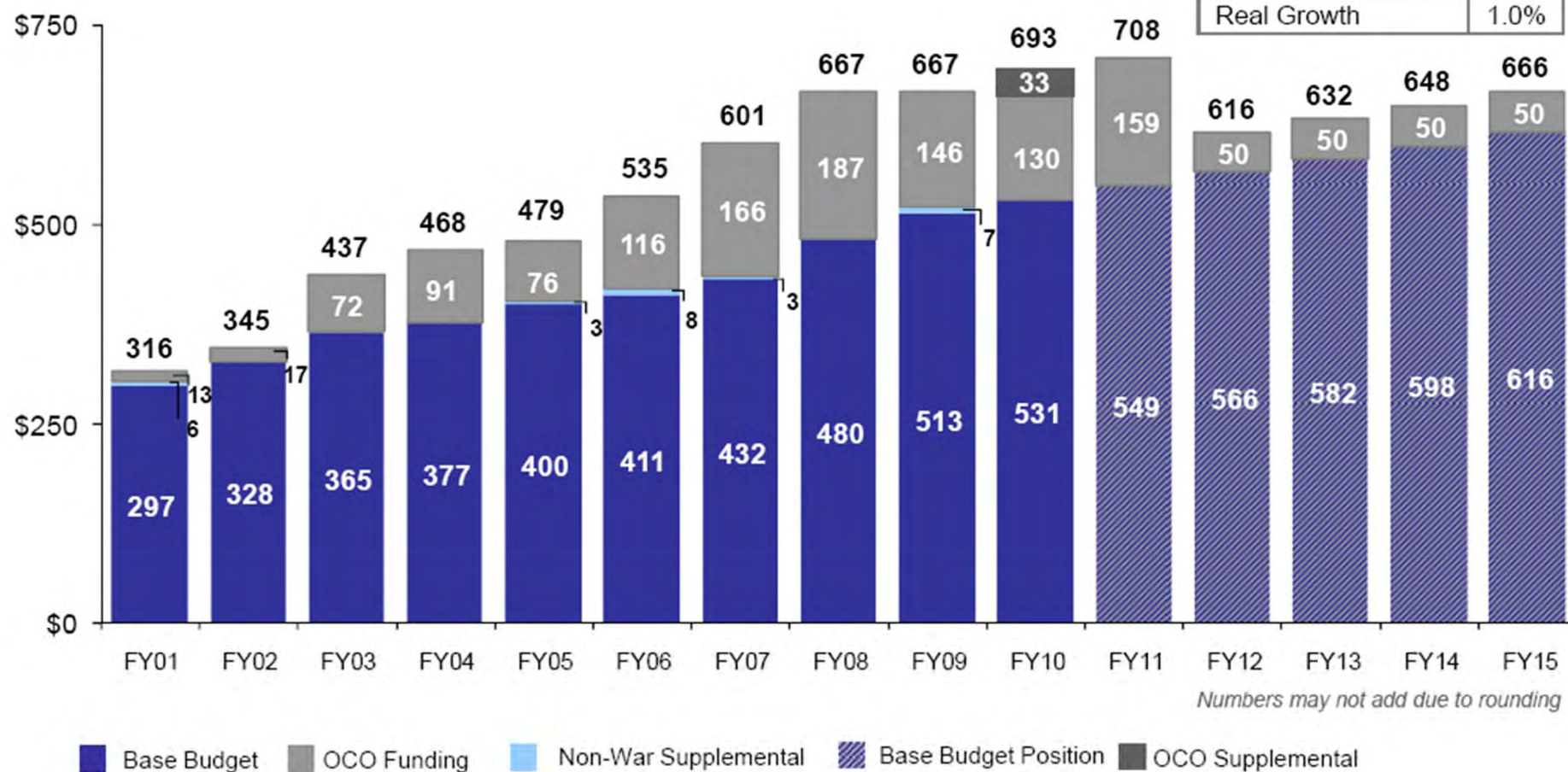


4 Administration Years with 2-year PPBE Cycle

Department of Defense Topline

FY 2001 – FY 2015

(Current Dollars in Billions)



Note: FY 2011 – FY 2015 reflects levels included in the President's FY 2011 Budget Request; FY 2009 Non-War Supplemental was appropriated through the American Recovery and Reinvestment Act of 2009

Source: Department of Defense Appropriation Acts FY 2001 – FY 2010, FY 2011 President's Budget documents

Munitions Interest Areas

Insensitive Munitions (IM)

U.S. Law

USC, Title 10, Chapter 141, Section 2389 December 2001: “§ 2389. Ensuring safety regarding insensitive munitions. The Secretary of Defense shall ensure, to the extent practicable, that insensitive munitions under development or procurement are safe throughout development and fielding when subject to unplanned stimuli.”

Warfighter Benefits:

Safety (*An increase in survivability for the Warfighter*)

Operational efficiency (*Reduced Hazard Classification (H/C)*)

Storage (*Reduced logistical foot-print*)

The Good News:

Afghanistan 2009 –

MRAP vehicle destroyed by a powerful IED that ruptured the hull and fuel tank, engulfing the vehicle in flames including (16) M768 60mm IM-protected mortar rounds

All 7 crew members survived



Afghanistan (Sept. 12, 2009)



IM Update

- **IM Strategic Plans (IMSPs) continue to garner the attention of senior military leadership**
- **Joint IM Test Standards and Passing Criteria Issued (USD(AT&L)Memo 1 Feb 2010)**
- **DoD FY11/12 IMSPs Approved Oct 2010**
 - **\$ 572.9 (M) identified for DoD IM Investment across the FYDP(FY10-15)**
- **Joint Service IM Technical Panel (JSIMTP) is a Department resource**
- **Currently preparing for FY 13/14 IMSPs**
- **Updated “Business Rules” for IM Strategic Plans**
 - **Aligned with Joint IM Test Standards and reduced reporting requirements**
- **Updated IM Handbook (to be released late spring 2011)**

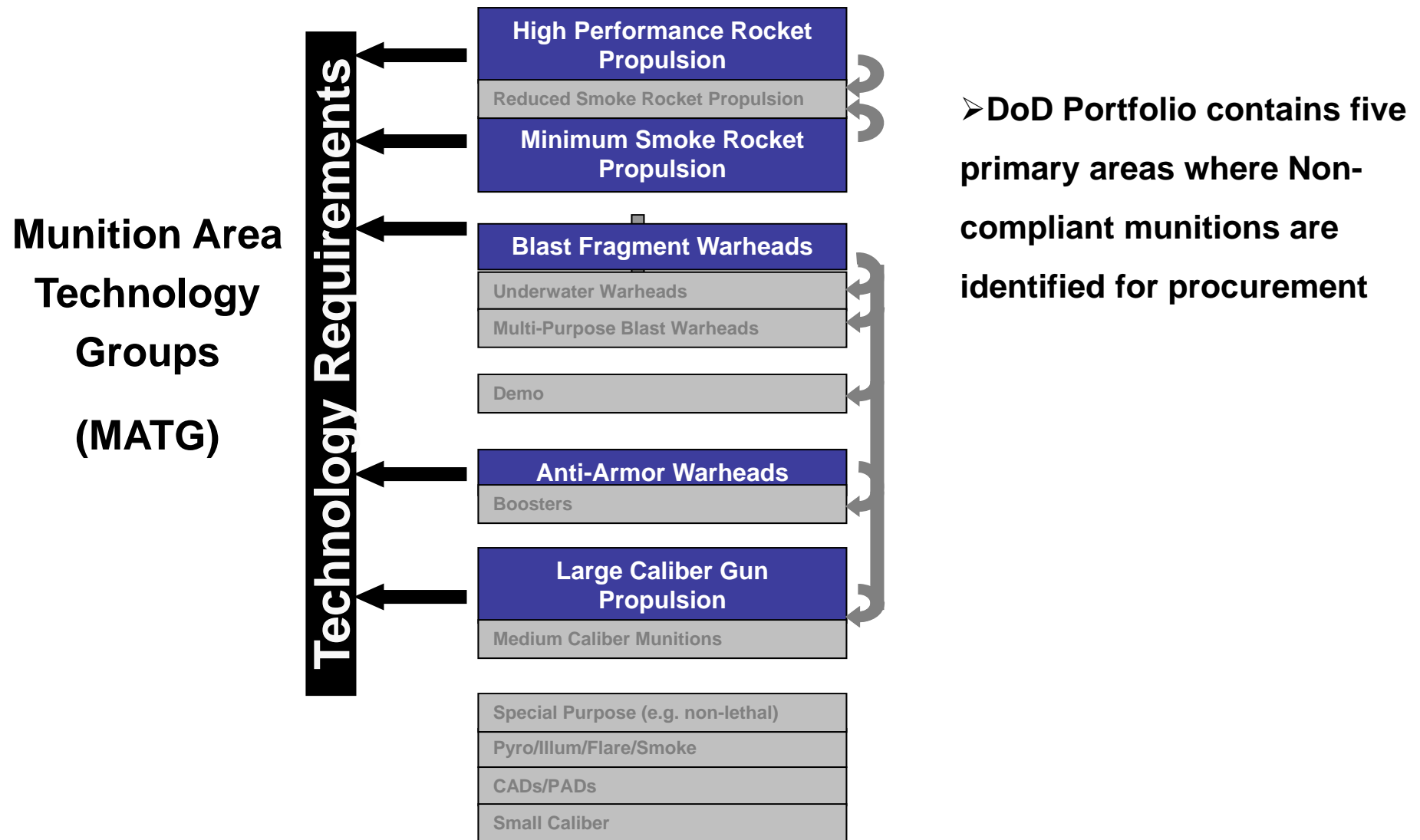


Joint Insensitive Munitions Technology Program

- **DoD 6.2/6.3 program that develops and matures technologies for improving munition response to combat and accident hazards**
- **Five Munition Area Technology Groups (MATGs) are focusing on DoD priority needs**
- ***Successes and transitions are occurring – IMX-101 for M795 155mm rounds, safer warheads***

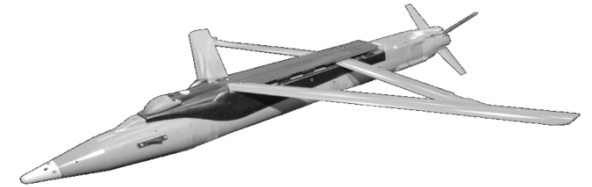


JIMTP S&T Focuses on DoD Munitions Portfolio



Joint Fuze Technology Program

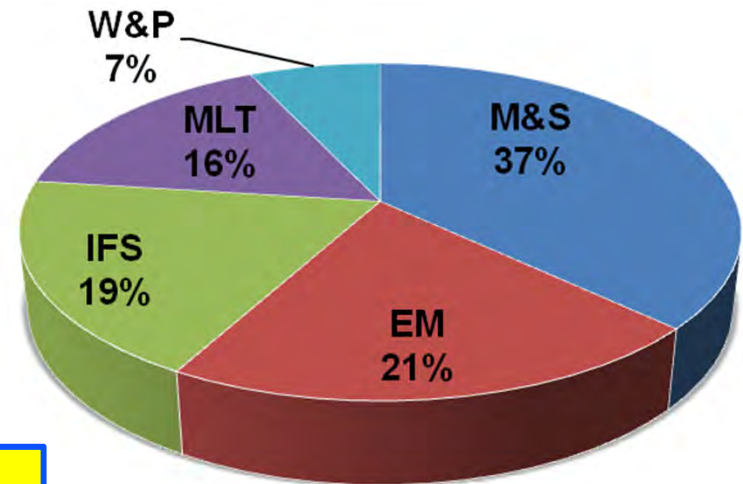
- VISION – Advance and maintain a healthy U.S. industrial and fuze technology base; establish early and continued government involvement in the development, application, and transition of fuze technology to munitions development.
- 4 Fuze Area Technology Groups:
 - Hard Target Survivable Fuzing
 - Tailorable Effects Weapon Fuzing
 - High Reliability Fuzing
 - Enabling Technologies and Common Architecture
- Participants
 - DoD communities: S&T / Requirements / Acquisition
 - Dept. of Energy (DOE)
 - Industry via DOTC



Joint DoD/DOE Munitions Program (JMP)

25 Years of Interagency Cooperation to Develop Advanced Munitions Technology

- Goal: Effect major improvements in munitions performance, safety, and affordability by using and adapting specialized DOE/NNSA skills, facilities, and tools
- Performers: Sandia, Los Alamos, and Lawrence Livermore National Laboratories
- Approximately 35 projects arranged in 5 focus areas:
 - Modeling & Simulation (M&S)
 - Energetic Materials (EM)
 - Initiation, Fuzing & Sensors (IFS)
 - Warheads & Penetrators (W&P)
 - Munitions Lifecycle (ML)



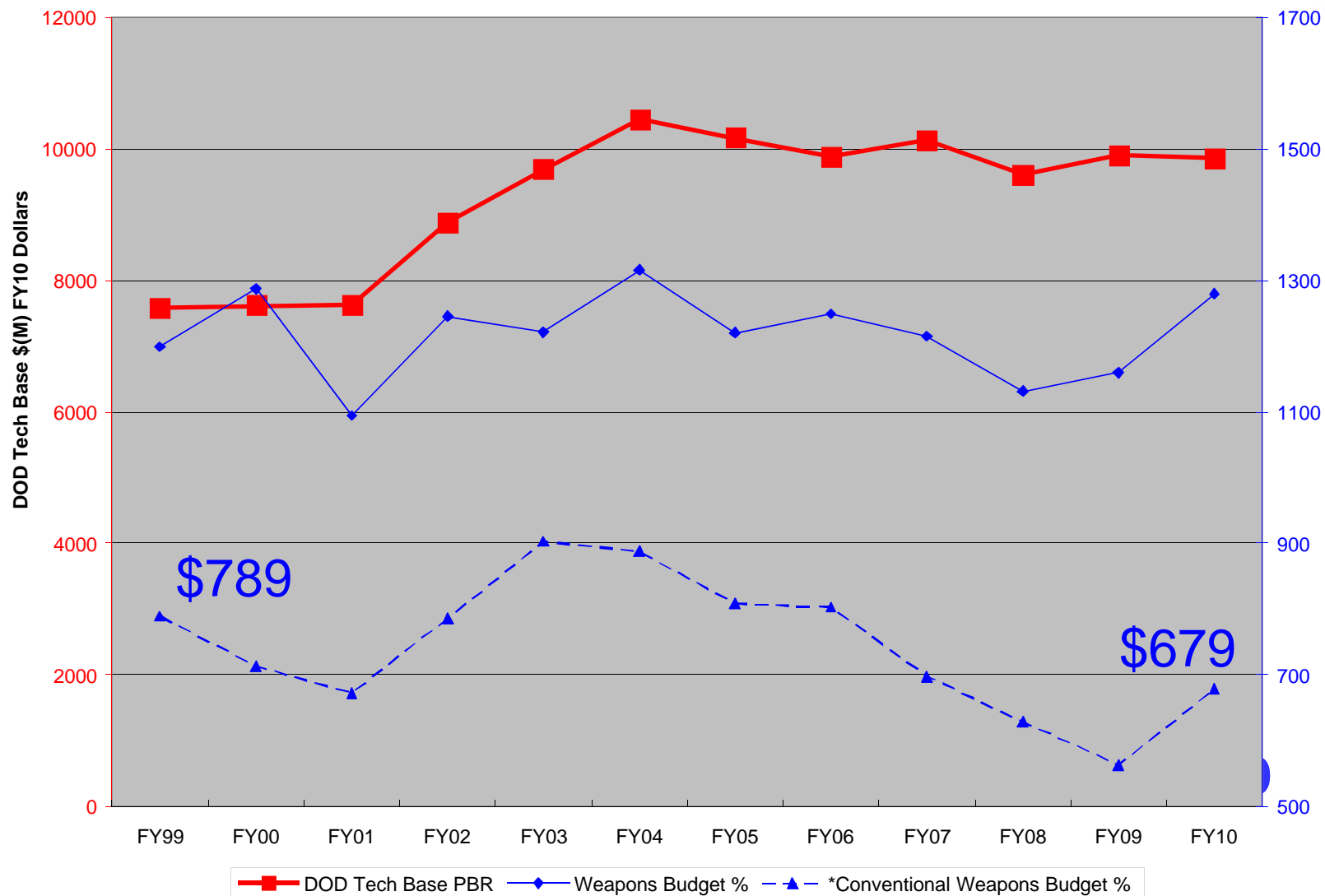
FY11 Funding

*Over 60% of budget goes toward
developing modeling & simulation tools
in all focus areas*



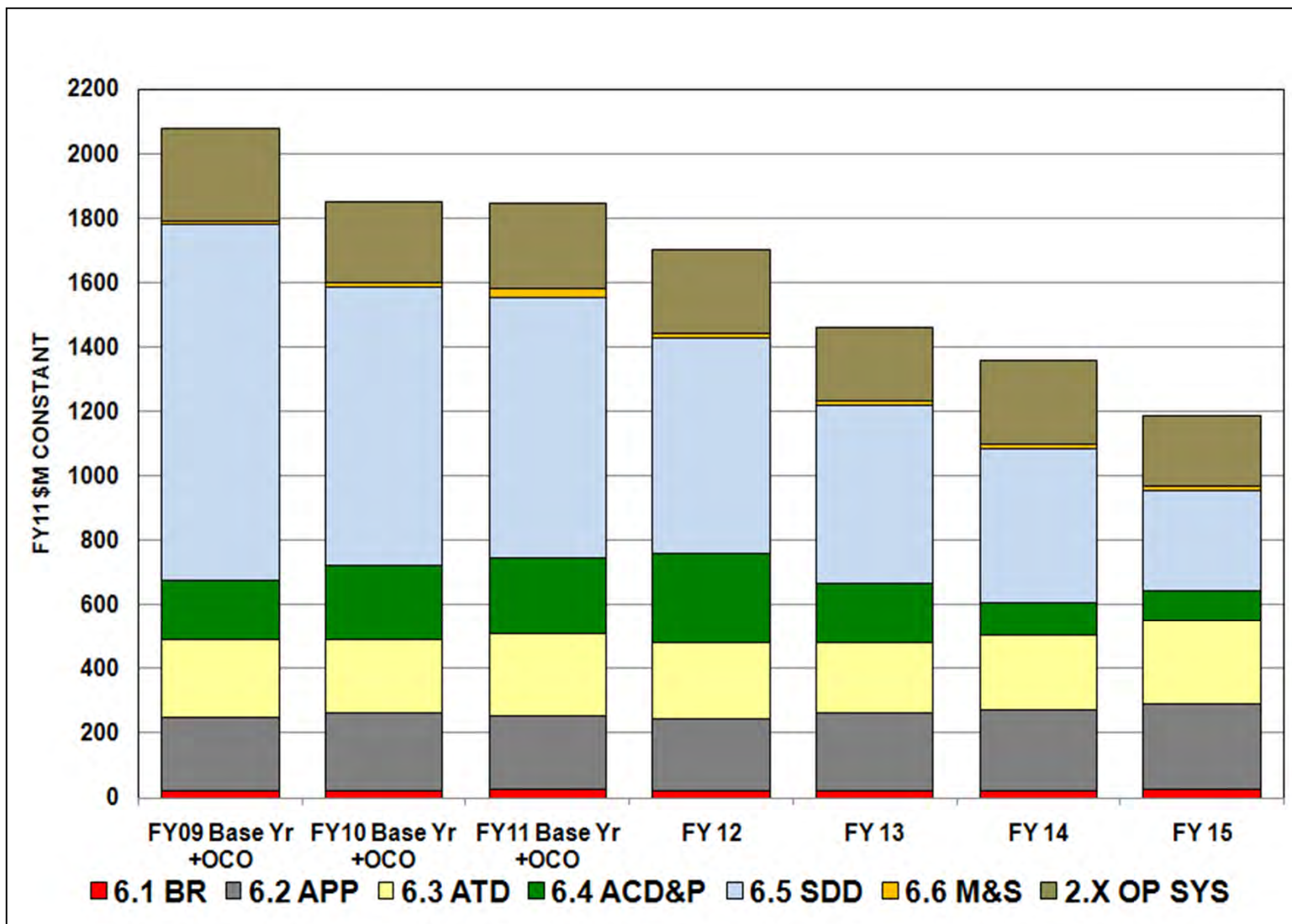
Conventional Weapons Roadmap

6.2/3 Budget FY99-10 Conventional Weapons



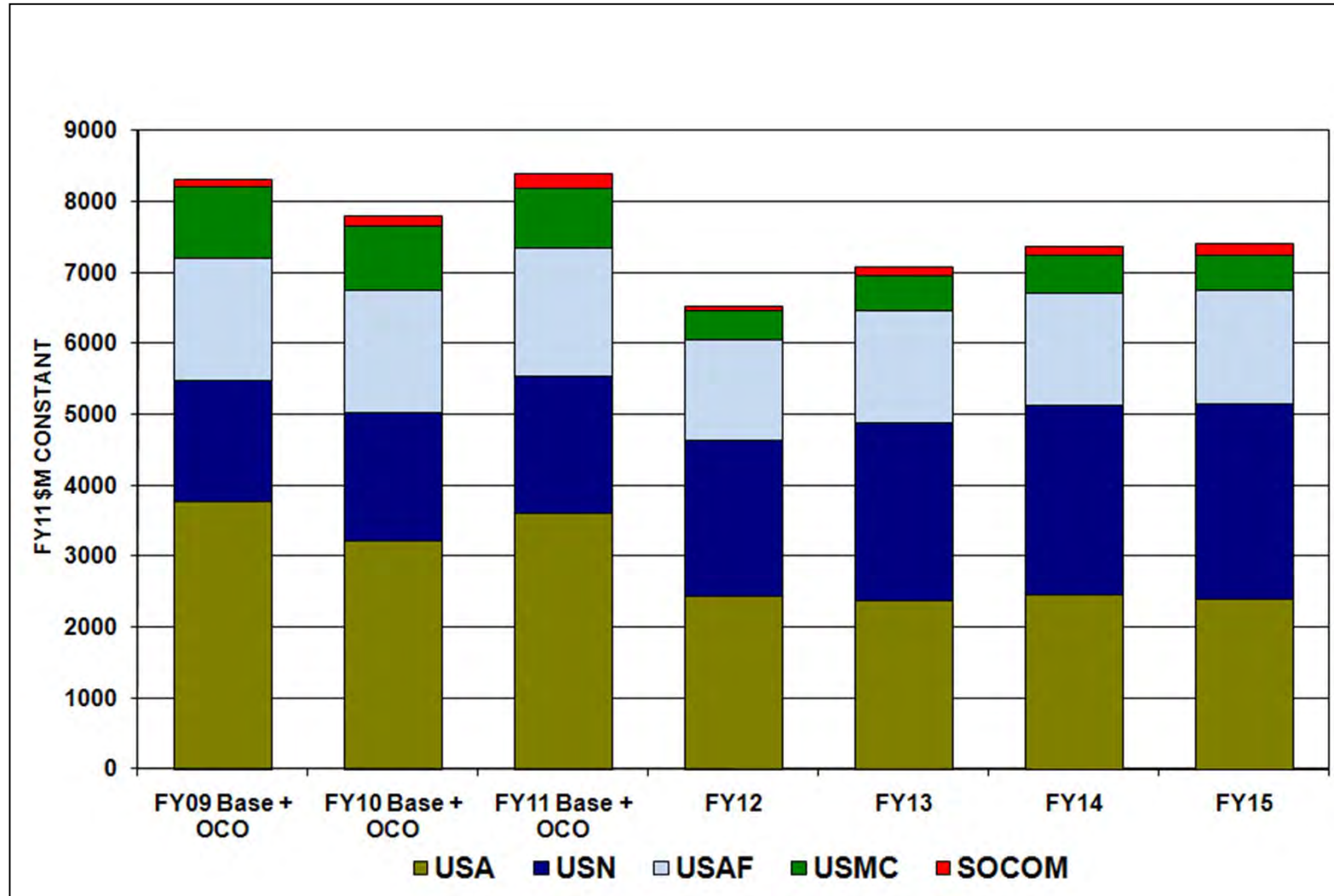


Conventional Munitions RDT&E



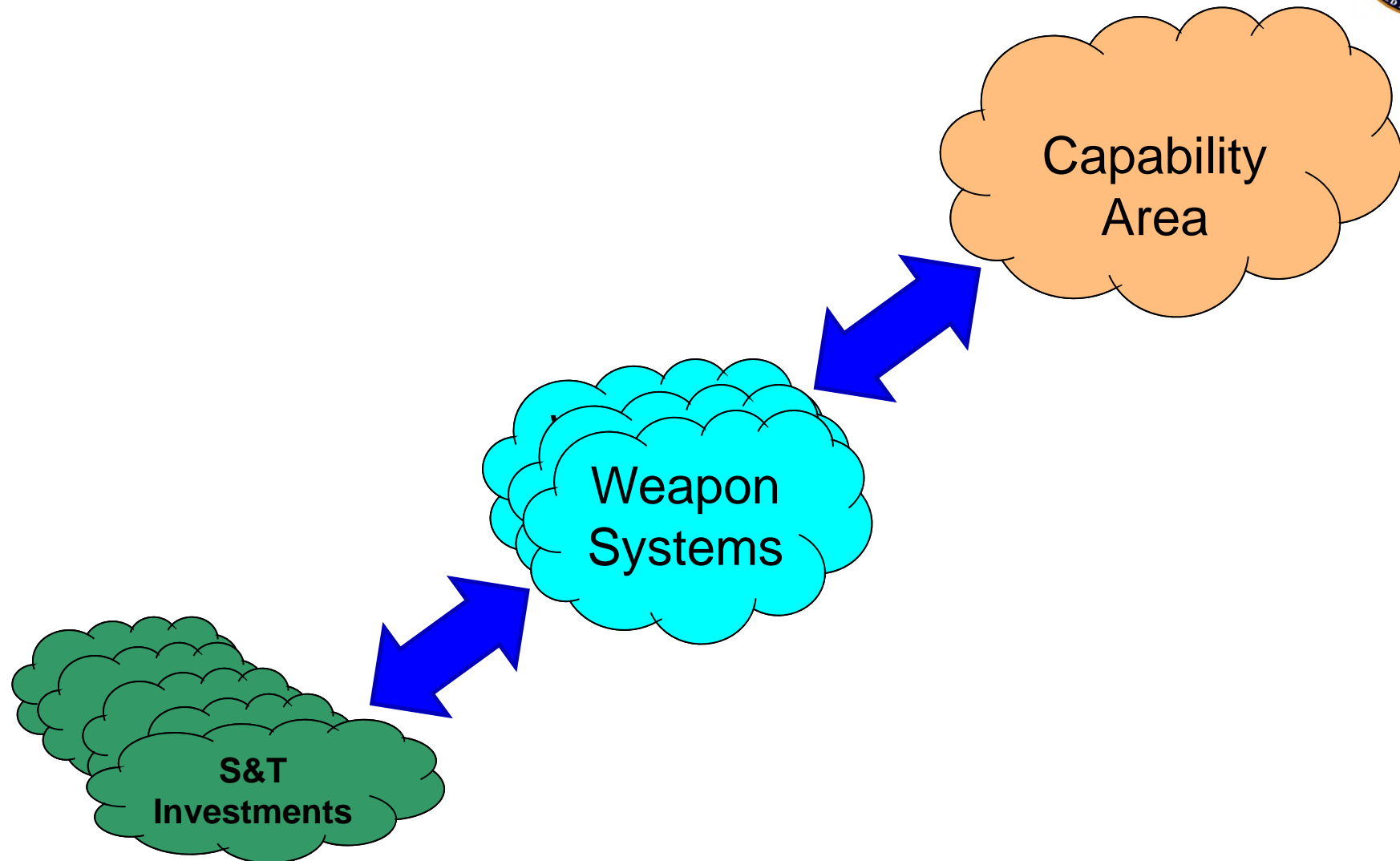


Conventional Munitions Procurement





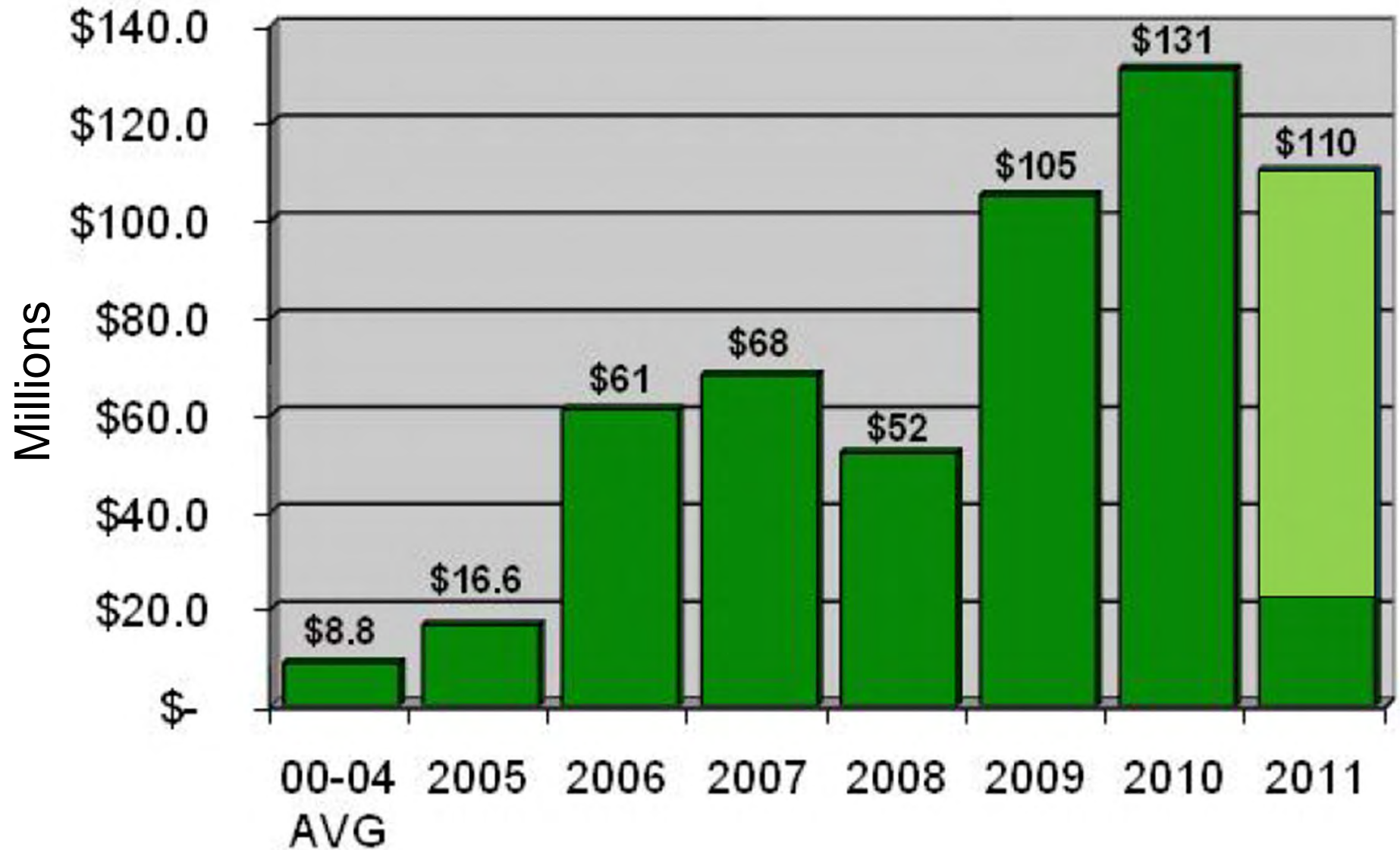
Process Overview



DOTC Mission

- Demonstrate Feasibility and Transition Advanced Explosives, Propellants, Pyrotechnics, Warheads, Fuzing and Demilitarization Prototype Technologies
 - Advocate a critical mass of world-class technologists to meet the Department of Defense needs for conventional energetics (explosives, propellants, pyrotechnics), warheads, fuzes and demilitarization
 - Operate as an “open” center in which industry, academia, and other Government organizations and departments can freely participate
 - Be a focal point to rapidly transfer technology to the war fighter
 - Develop strong working affiliations with private and public energetics, warhead, fuze and DEMIL facilities and technology organizations
 - Leverage governmental and private sector research and development resources to maximize return on investment
 - Promote non-traditional defense contractor involvement
 - Promote innovation

DOTC Resources





Questions?



PEO AMMUNITION

PM Acquisition Panel

4 February 2011

Presented by:
Mr. Chris Grassano
PEO Ammunition
Chief of Staff

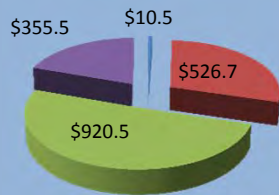


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Dated: 2 Feb 2011.



FY 10 PEO Ammo Funding

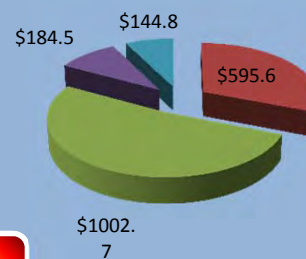
PAA \$2,144.5 M



RDTE \$278.2 M

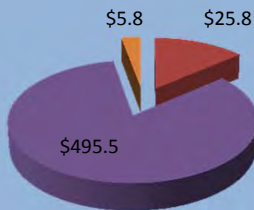


Other Services \$1927.6 M



Total \$5.9B

OPA \$527.1 M



WTCV \$313.9 M



JIEDDO \$677.6 M



Key Program Metrics

Programs:

ACAT I	1
ACAT II	4
ACAT III	645+
QRCs	22

Product Phases*:

Pre-System Acquisition	22
Eng & Mfg Dev	2
Prod & Dep	272
Operations & Support	376+

**Some programs in multiple phases*





PEO Ammo S&T Priorities

Near Term (1-4 Years)

1. IED Defeat & Counter Mine¹
 - Prediction, Prevention, Detection/ID, Neutralization & Mitigation at standoff and convoy speeds
2. Affordable/Low Power Precision⁴
3. Cluster Munition & DU Replacement
4. Shoulder Launched⁴
5. Lightweight Small Cal Ammo⁵
6. Insensitive Munitions⁴
7. Small & Med Cal Non-Lethal⁴
8. Dim/Imperceptible Trace ²
9. Networked Munitions⁴
10. Indirect Fire Extended Range⁴

ASA(ALT) Thrust Areas (partial list)

1. *Counter IED and Mine*
2. *Force Protection*
3. *Battlespace Awareness*
4. *Force Application*
5. *Logistics*

Far Term (5+ years)

1. Affordable, Smaller Precision Guidance with degraded or no GPS⁴
2. Scalable Ammo/Munitions (Non-Lethal to Lethal)⁴
3. Advanced Multi-Purpose Fuzing⁴
4. Advanced Explosive Detection²
5. Counter Munitions²
6. Aircraft Protection Countermeasures²
7. Ammo as sensors³
 - Detect, ID, Locate, map targets
8. Lightweight Ammo/Munitions⁵
9. NANO Materials & MEMS devices
10. Lightweight Materials⁵



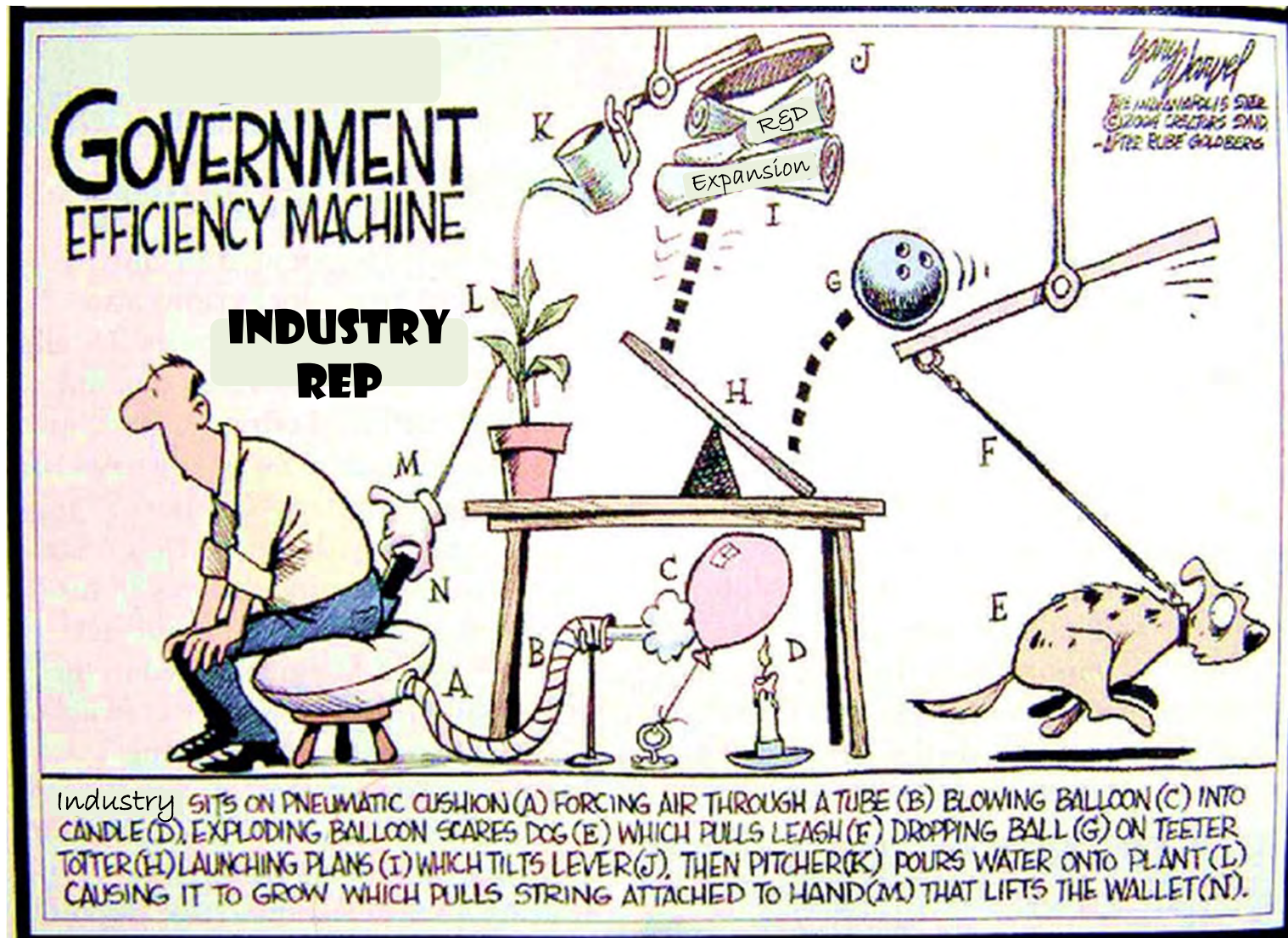
PEO Ammo FMS Initiatives

- Established FMS Working Group (Oct 10):
 - Cultivate opportunities to leverage benefits of FMS/international within PEO
 - Promote collaborative environment within PEO
 - Improved FMS/international communications across PMs
 - Explore FMS Best Practices across PEOs/other enterprises
- International Program Steering Committee:
 - Keep pulse on “International Engagement Strategy” of Security Assistance Enterprise
 - Establish enterprise level strategic goals and objectives
 - Charter under development with expanded stakeholder & Industry participation

- **FMS WG to Facilitate Execution**
- **IPSC to Establish International Strategic Vision**



Efficiencies is NOT



Original by Stephen VanDyke

Munitions Executive Summit “Responsive Munitions Support to the Warfighter”

CAPT Jeff Horton, SC, USN

Office of The Executive Director for Conventional Ammunition



- Current CNO Guidance
- Navy SMCA Investment
- What Industry is Doing Well
- Challenge to the Community: *What Industry can do!*
- BRAC 2005 Update
- Summary



CNO's Three Focus Areas Reaffirmed

- **Build the Future Force**
- **Maintain Our Warfighting Readiness**
- **Develop and Support our Sailors, Navy Civilians,
& Their Families**

- **Continue to be the Dominant, Ready Naval Force Across all Maritime Missions**
- **Build a Navy with Appropriate Force Structure and Strategic Laydown**
- **Maintain Decision Superiority**
- **Align the Requirements, Resources and Acquisition Processes**
- **Evolve and Establish International Relationships**

**CNO's Five Emphasis Areas
out of 18 Intentions**

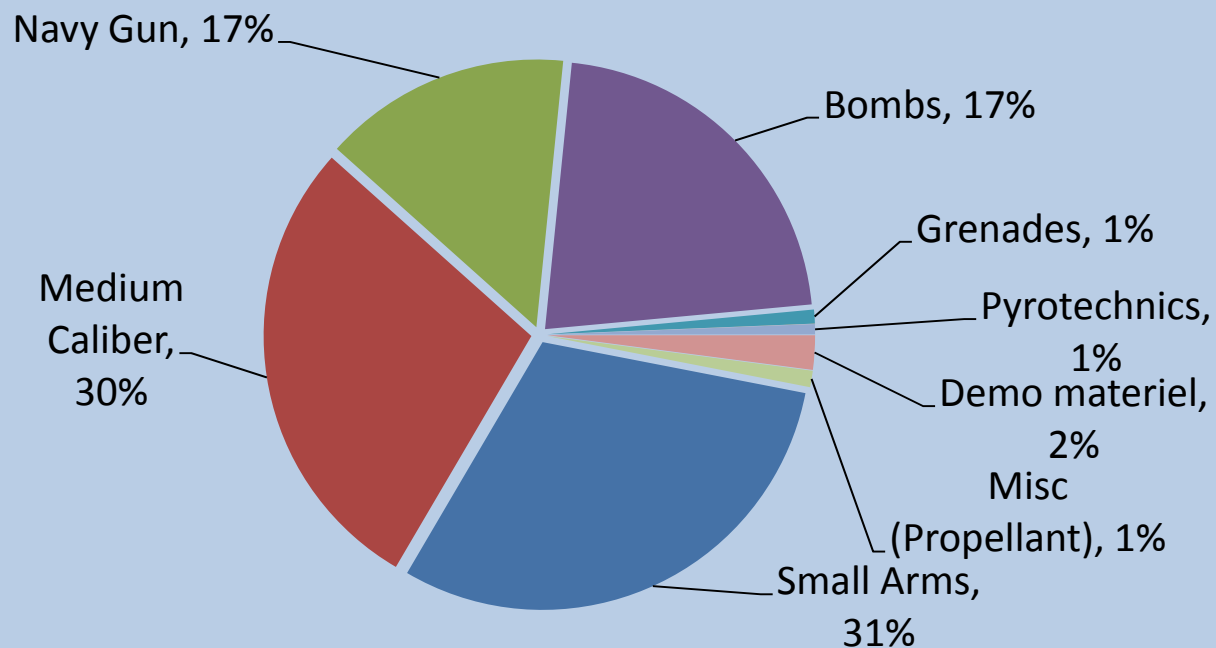
Investments Driven By

Overseas Contingency Operations

War Reserve Material Requirements

Annual / Pre Deployment Training

FY11 - FY15 Navy SMCA Procurements by Ammunition Family



- **USN Thanks You:**

- Ability to quickly respond to fluctuations in requirements and funding
- Efficient in driving waste out of manufacturing processes

- **Fleet requests increased capability for 30MM Gun Weapon Systems (Range/Lethality)**
 - USN actively looking at alternative munitions to extend beyond the current capabilities of basic HEI-T configurations
- **Contract award for (20) Littoral Combat Ships (LCS) increases need to deliver affordable 57MM ammunition to the FLEET in order to control Total Ownership Costs**
 - USN evaluating submittals from recent Sources Sought for Training Practice Cartridge
- **Despite delays USN still working with the SMCA to evaluate the potential to move forward with a Systems Contract Approach for 5/54 ammunition**

- **Look For:**

- Alternatives to existing weapons and/or ordnance that with minor investment can achieve increased capability
- Alternatives for Littoral Combat Ship with the cancellation of NON-Line of Sight Precision Munition (NLOS)
- Alternatives that will provide a similar measure of reliability for both safety and operations since significant resources are applied to qualify, accept and sustain munitions

Latest on Navy at Picatinny: *To be Completed Aug 2011*

- **Move Gun and Ammo RD&A functions to Picatinny Arsenal, NJ**
 - NSWCC Crane Detachment at Fallbrook, CA
 - NSWCC Crane, IN (except energetics and RD&A T&E in support of Special Operations)
 - NSWCC Port Hueneme Detachment Louisville, KY
 - NAWC China Lake, CA (except energetics)
- **Move Weapon and Armament Packaging, Handling, Storage and Transportation (PHS&T) RD&A and T&E function from NSWCC Indian Head Detachment Earle, NJ**

Tech Data Center B61



PHST Center B458



Warehouse B3355



Turret Facility B3349



Range 647



Firing Bay and Control Room



Dual Slug Butts

- **DON remains an active industrial base partner**
 - Active supporter of the U.S. Army's Ammunition Enterprise
 - Super collaboration with SMCA
 - BRAC transition focus
 - Continued support to EDCA
- **Interoperability of Services imperative**
 - Common visibility of ordnance items through info systems
 - Requirements collaboration
 - Joint design and development of today's weapon systems and platforms
 - Safety considerations (HERO, IM, etc.)
 - Standardization of joint criteria/test requirements
 - Efficiencies, Efficiencies, Efficiencies

Congressional Budget Perspective

Impact of the 2010 Election

2011 NDIA Ammo Summit

February 4, 2011

- What we know***
- What I think we know***
- What I think***
- Questions/Discussion***

What We Know: Election Consequences

(Feb '11)

- Two party governance returns
 - Republican controlled House w/ new leadership
 - Same Senate leadership but new internal dynamics
 - Altered terrain for 2012 Presidential election
 - Election mandate?
- Deficit constraints/control as counter balance

***Watching democracy in action
in a dynamic international economy !!***

What We Know – House changes

(Feb '11)

- Speaker: John Boehner
- Majority Leader: Eric Cantor
 - \$100B in FY11 “non-defense” spending reduction (~\$55B)
 - Goal: reduce “non-defense” to FY08 level for FY12
- Budget Committee: Paul Ryan (WI)
 - Strategist: “Roadmap for America’s Future”
- HASC: Buck McKeon (CA) and Adam Smith (WA)
 - Tactical Air & Land Forces: Roscoe Bartlett (MD) and Silvestre Reyes (TX)
- Approps: Hal Rogers (KY) and Norm Dicks (WA)
 - HAC-D: Bill Young and Norm Dicks; ***smaller committee & staff***

Deficit control and health care modifications

What We Know – Senate changes

(Feb '11)

- 53-47 split with 16 new Senators – more friction!
- Senate Budget Committee:
 - Kent Conrad (ND) retiring in '12
 - Jeff Sessions (AL) vice Judd Gregg
- SASC: Carl Levin (MI) and John McCain (AZ)
 - Readiness: Daniel Akaka (HI) and _____
- Approps: Dan Inouye (HI) and Thad Cochran (MS)
 - 7 new Republicans
 - SAC-D: Dan Inouye (HI) and Thad Cochran (MS)
 - 5 new SAC-D: Alexander, Collins, Murkowski, Graham, Kirk

Minority Leader McConnell pivotal person

What We Know -- 2011 Congressional FY12 Budget Schedule

- Before President's Budget Feb 14th attempt:
 - Health care overhaul
 - FY11 “omnibus” **w/ ~\$55B domestic reductions**
 - Raise deficit ceiling (by March 30); tied to spending cuts?
- March 4: Continuing Resolution expires; defense carries new CR
- Mar 15: House/Senate Budget markups
 - HBC “Roadmap”
- March 30: debt ceiling reached
- Apr 15: Congressional Budget Resolution due
 - Joint Resolution unlikely: will illustrate new House-Senate fault line

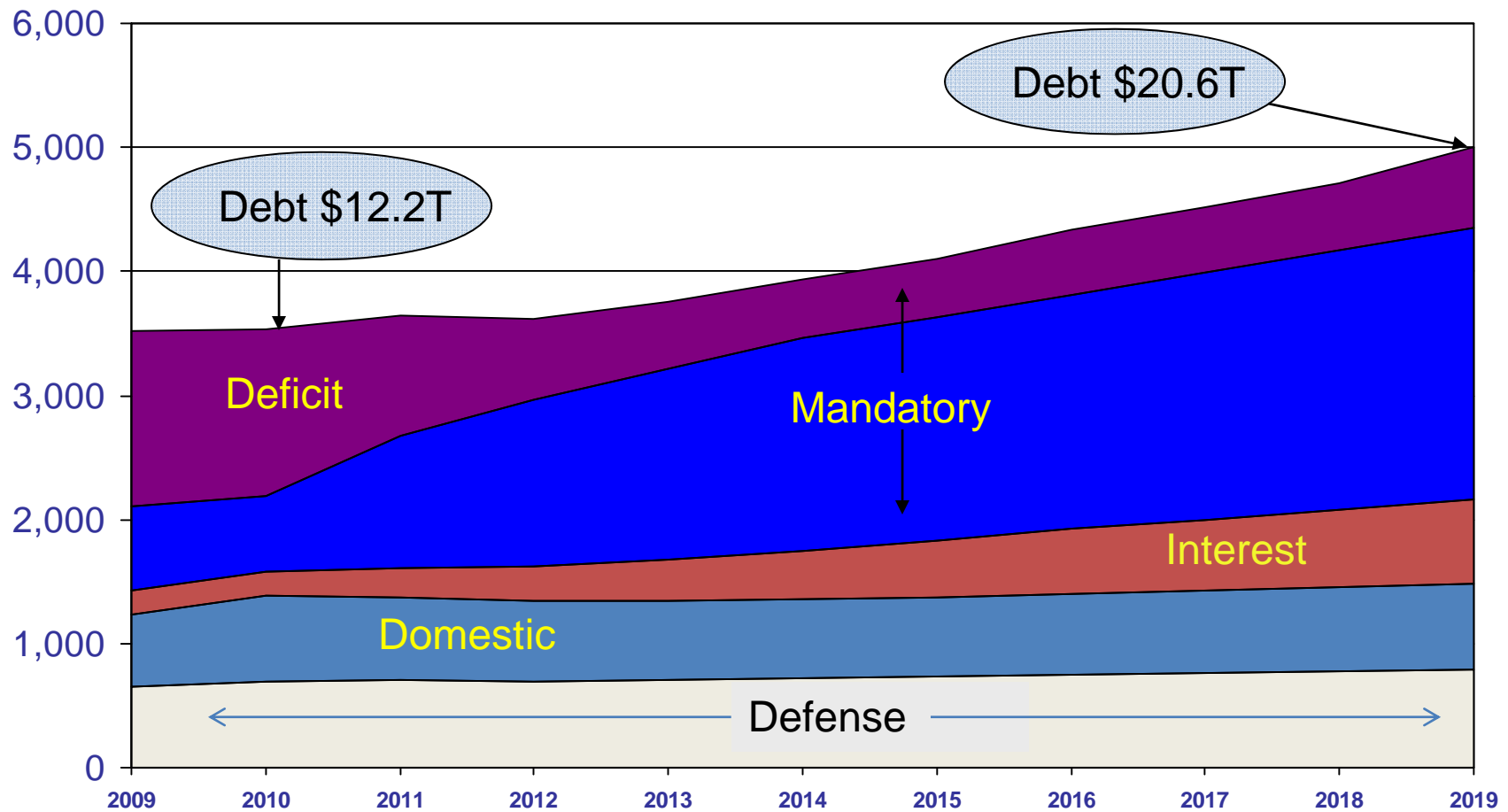


Budget
Summit?

Basic fiscal structure and “tenor” set for next 2 years

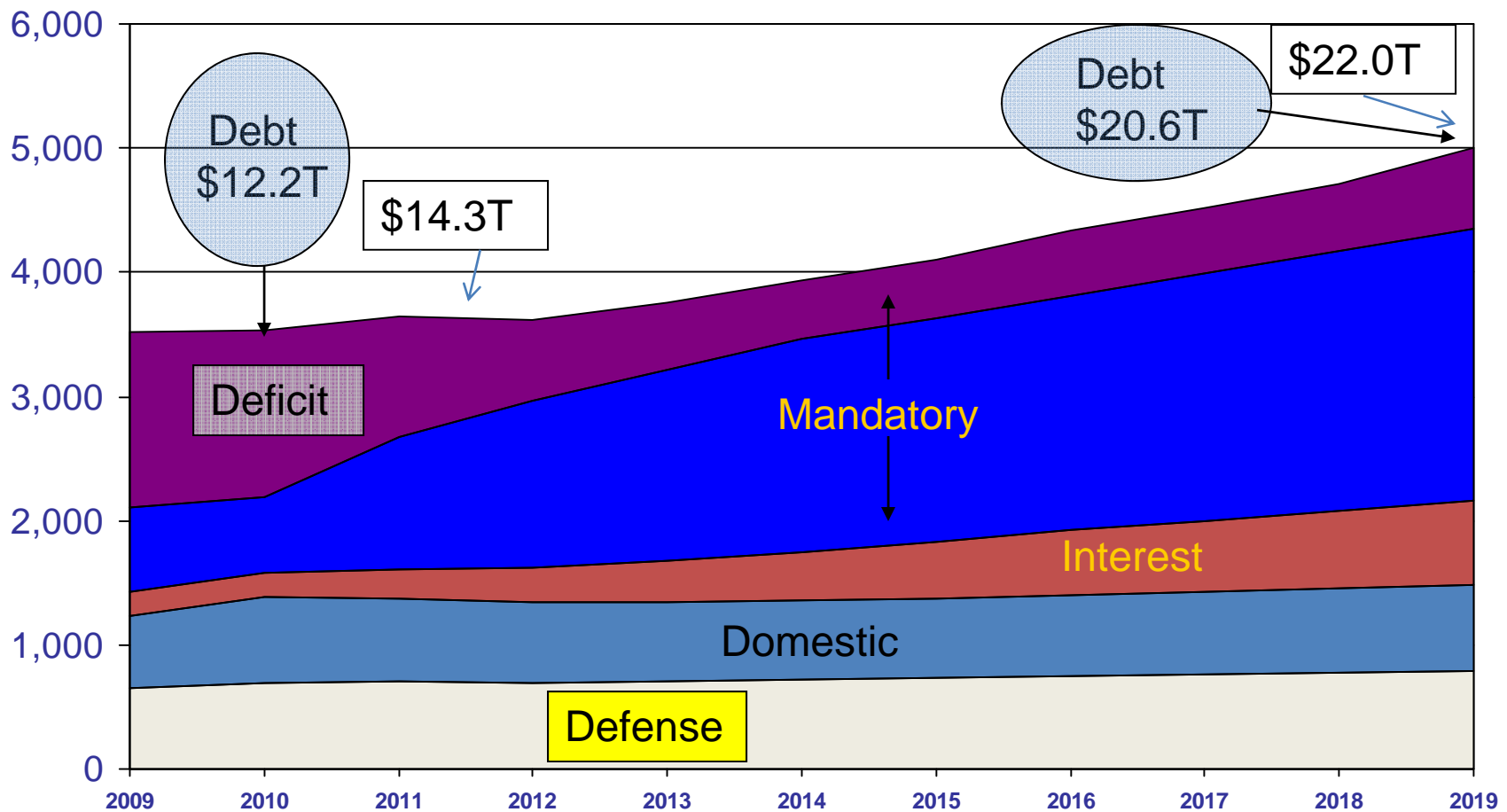
Federal Outlays: CBO Current Policy Estimate

Deficit, Mandatory, Interest & Discretionary (\$B) – Table 1-3



Federal Outlays: CBO Current Policy Estimate

Deficit, Mandatory, Interest & Discretionary (\$B) – Table 1-3



What I Think We Know?

(Feb '10)

- No one wants to be seen as weak on “defense”
 - BUT priority is elsewhere
- Responding to invigorated Al Qaeda **could** sustain elevated “OPTEMPO” and budgets
 - Persistent Conflict & OCO
 - Persistent budget volatility or “business risk”
 - Down turn is moving to the right!
- Future administrations **will be** constrained by DEBT
 - “Soft Landing” looking more like “Risk Management” and asset redeployment

Still fairly accurate -- BUT now Egypt!

What I Think We Know?

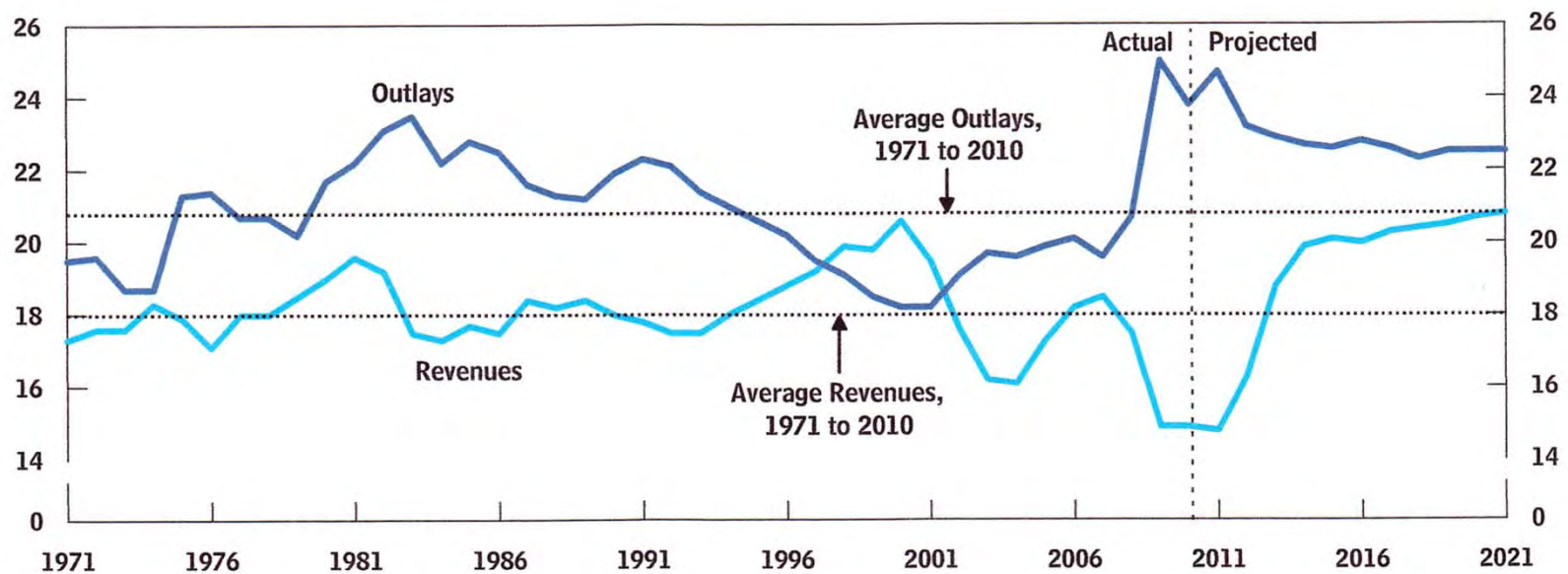
(Feb '11)

- Issue: More government spending or wealth/value creation?
 - **18% or 21% of GDP to federal government**

Will Congress support a Defense budget freeze?

Total Revenues & Outlays

(as % of GDP)



Source: Congressional Budget Office.

What I Think We Know?

(Feb '11)

- Issue: More government spending or wealth/value creation?
 - **18% or 21% of GDP to federal government**
- Sec Gates adjusts DOD '12-'17 POM:
 - Real “050” budget freeze at FY11 request level
 - \$78B cut and returned to OMB:
 - \$54B – Overhead reductions
 - \$14B – Revised economic assumptions
 - \$4B – JSF schedule changes
 - \$6B – Outyear end strength cuts:
 - **Army 20K (-\$150M) -- USMC 15-20K (-\$150)**
- Some ammo weakness visible in FY11 OCO mark: estimating error
- Goal of 4% of GDP for defense appears unlikely: over structured

Will Congress support a Defense budget freeze?

DoD (051) Budget Authority (\$B)

(w/supp/OCO – Table 5.1 PB'11) – Feb '10

**LAST
YEAR**

	2008	2009	2010	2011	2012	2013	2014
Pay	139	146	155	154	142	146	150
O&M	256	272	277	317	212	221	231
Proc (Ammo)	165 (5.4)	133 (5.1)	131 (5.1)	138 (5.0)	120 (3.8+)	124 (3.8+)	133 (4.1)
R&D	80	81	79	77	76	73	70
Other	35	31	26	23	16	18	14
Total	675	664	668+33	708	616	632	648
Supp / OCO	172 +16 MRAPS	142	131 +\$33 Supp	159	(50)	(50)	(50)
Base	490	522	537	549	566	582	598

Procurement/R&D ratios now 2.1:1 to 1.6:1 – NOT 4:1

DoD (051) Budget Authority (\$B)

(w/supp/OCO – Table 5.1 PB'11) – Jan '11

Election

New Admin

	2008	2009	2010	2011/Conf 12/10	2012	2013	2014
Pay	139	146	141	143/ 143	142	146	150
O&M	256	272	305	326/ 318	315	280	264
Proc (Ammo)	165 (5.4)	133 (5.1)	132 (5.0)	133/ 128 (5.0)	125 (5.0)	124 (4.3+)	133 (3.6)
R&D	80	81	81	77/ 79	76	73	70
Other	35	31	26	21/ 21	16	18	14
Total	675	664	685(30)	699/689	673	641	631
Supp / OCO	172 +16 MRAP	142	161 (\$30 Supp)	158/ 158	(120)	(75)	(50)
Base	490	522	524	541/531	553	566	581

-\$13B

-\$18B

-\$78 = -13 -16 -17 -16 -16

Most cuts in operating accounts – Ammo safe?

Supplementals (\$B)

(Feb '11)

Year	FY06	FY07	FY08	FY09	FY10 (OCO + Supp)	FY11 (OCO) (12/10 Conf)	FY12 (OCO)
Pay	16.4	18.9	17.8	17.9	16.8	15.3	~15
O&M	71.1	94.7	91.6	81.7	115.7	116.9	~80+
Proc (Ammo)	18.0	45.4	54.8 (1.3)	29.2 (0.8)	28.0 (1.3)	25.4 (1.2)	~15 (1.0)
Other	5.3	6.5	8.3	12.9	0.5	1.7	--
Total	115.8	165.5	172.5	141.7	161.0	157.7	~110+

What I Think

(Feb '11)

- FY12 mark up and floor actions later than normal
- Process changes: -- ***5 year discretionary \$ freeze -- 2 year budget***
- External actions can raise priorities for defense funding and passage
- \$6-8B SAC reduction in Appropriations allocations continue
 - Puts every thing on the table for reduction
 - Takes FY12 ~1% real growth out
 - ***Could drive real decline into defense***
 - ***Industry should argue to keep OCO \$ for recapitalization/modernization***
- Real “freeze” fiscal plan needs fully considered MIBTF support
 - Time to use industry wide planning tools! ***Soft Landing time***
- Ammo down slightly; major action in POM 13-18 build
 - POM cuts could feed back to Congress as bill payers
 - Force structure/ES cuts will reduce requirements
 - Cut ammo deliveries to match force reductions: do not over buy
 - “Lazy \$” will be harvested

Things get worse when and if Sec Gates leaves

QUESTIONS/DISCUSSION

Ogden Air Logistics Center



U.S. AIR FORCE

Munitions Executive Summit

Maj Gen Andrew E. Busch
OO-ALC/CC
Feb 2011

BE AMERICA'S BEST



AF POM



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- **President's 2012 budget – mid-February**
 - **No new growth – flat budgets**
- **DoD Budgets in flux**
 - **OCO going away**
 - **Fewer new starts**
- **Bottom line**
 - **Budgets will continue to be reset**



OSD Acquisition Directives



OGDEN AIR LOGISTICS CENTER

- **Guidance Roadmap**
 - **Target Affordability and Control Cost Growth**
 - **Should Cost analysis**
 - **Incentivize Productivity & Innovation in Industry**
 - **Preferred Supplier Program**
 - **Promote Real Competition**
 - **Remove obstacles**
 - **Improve Tradecraft in Services Acquisition**
 - **Reduce Non-Productive Processes and Bureaucracy**

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Requirements

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- War fighter drives requirements
- Treaties Impact
 - Cluster munitions
 - Land Mines
- Changing Future
 - UAV roles
 - Captive-carry a way of life
- FMS can be driver



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Questions ??



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AMERICA'S ARMY:
THE STRENGTH OF THE NATION

UNCLASS

U.S. Army Munitions HQ DA G-3/5/7



Richard J. Mason, Jr.
COL, GS
Chief, DA G3 Munitions
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- **DA G-3/5/7 Munitions Mission**
- **Army Munitions Strategy**
- **Capability Requirements Process**
- **Munitions Requirement Process (MRP)**
- **Requirement Challenges to the Munitions Enterprise**
- **The Way Forward**



UNCLASS



- **Serve as Army Staff focal point for integrating all munitions issues**
- **Where do we focus?**
 - ✓ **Determine ALL munitions requirements**
 - ✓ **Support the warfight**
 - ✓ **“Operationalize” munitions issues and recommend priorities**
 - ✓ **Coordinate munitions resourcing strategy**
 - ✓ **Synchronize munitions policy**
 - ✓ **Oversee Army weapon systems training programs**
 - ✓ **Monitor munitions and industrial base readiness**





Validation, Prioritization, Resourcing, Policy

G-3/5/7

- TRA: **Develop RQMTs**
- FM: **Force structure**
- CIC: **Capability RQMTs**
- CIR: **Develop priorities**
- SSW: **War plans**
- OD: **Current operations**

G-4

- Sustainment**
 - Munitions Div

G-8

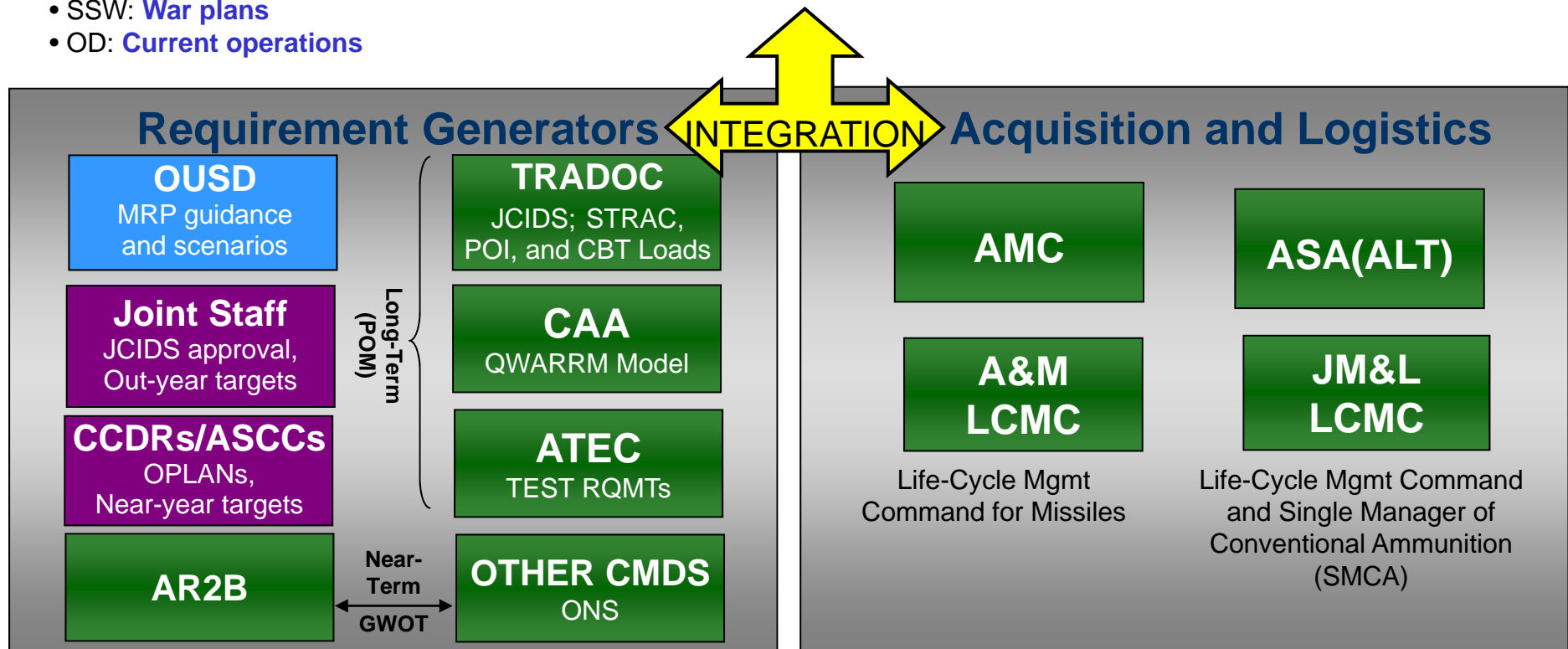
- Programming**
 - Conv'l Ammunition (FDX)
 - Missiles & PGMs (FDD, FDE, FDS, FDV, FDF)

ABO

- Budgeting**
 - Munitions Div

ASA(ALT)

- Acquisition & Program Management**
 - Missile Systems & Ammunition Directorate

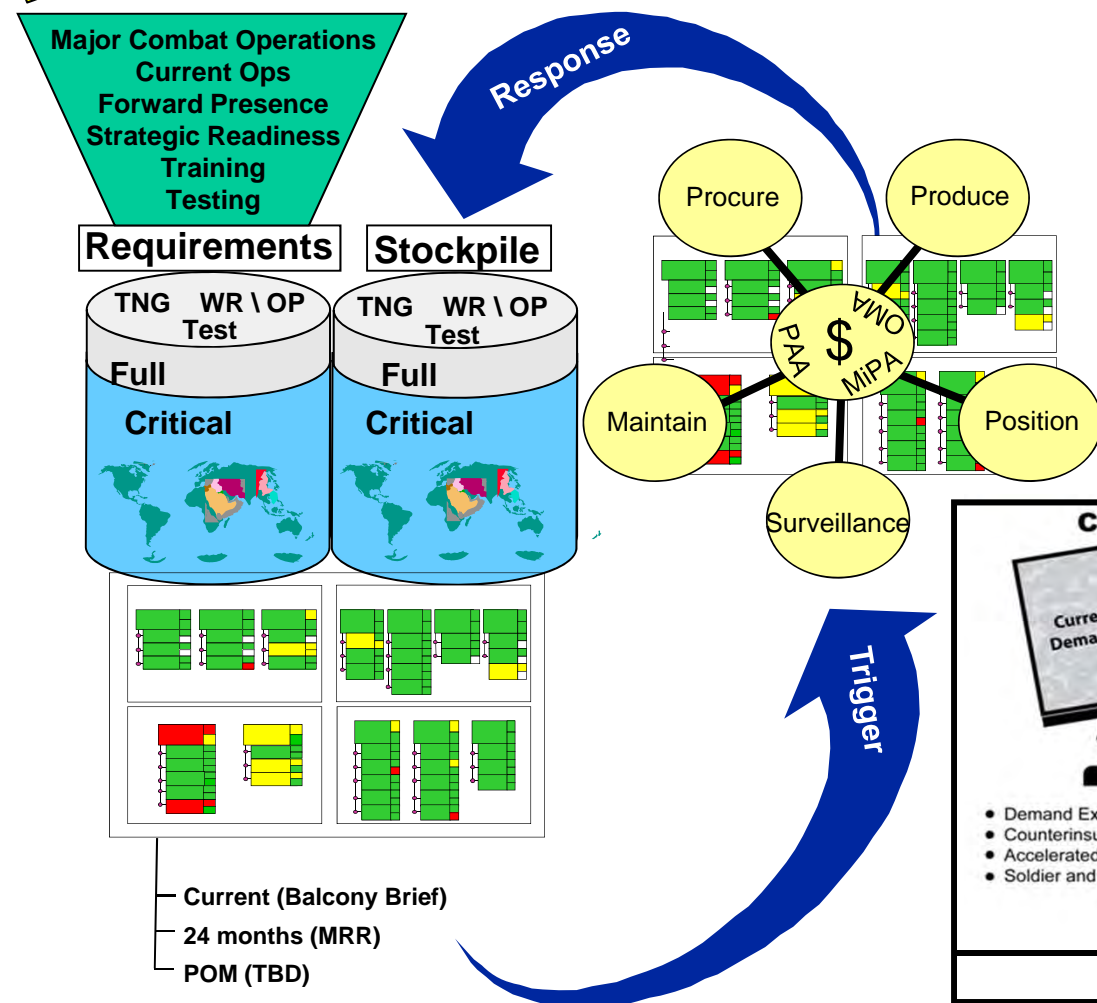




Drivers

Reservoirs

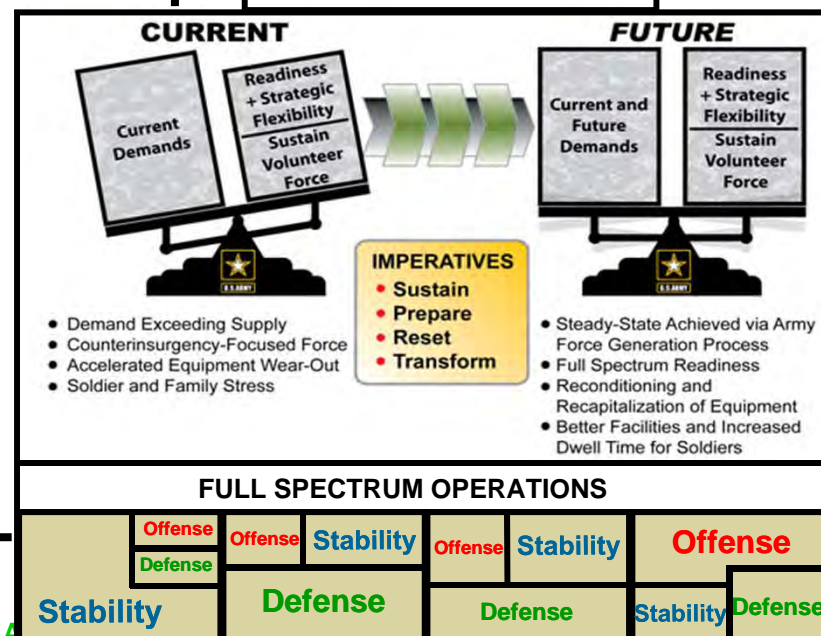
Triggers



Objective

- Generate steady-state capability maintaining readiness and flexibility to surge.
- Support Joint and Army capability and readiness based requirements and priorities across the full spectrum of operations.
- Get operational issues in operational channels.

Restoring Balance

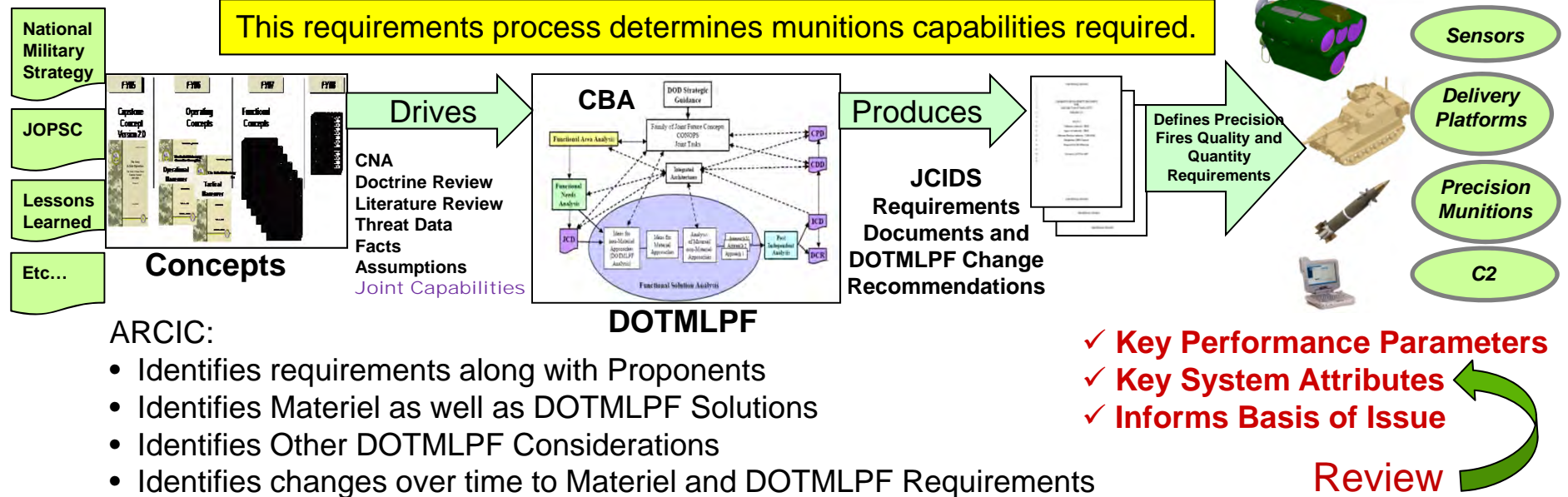




AMERICA'S ARMY: THE STRENGTH OF THE NATION

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Capabilities Requirements Process "The What"

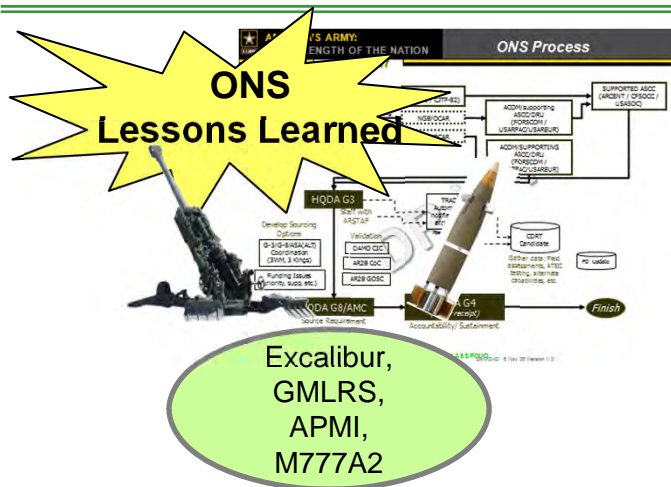


ARCIC:

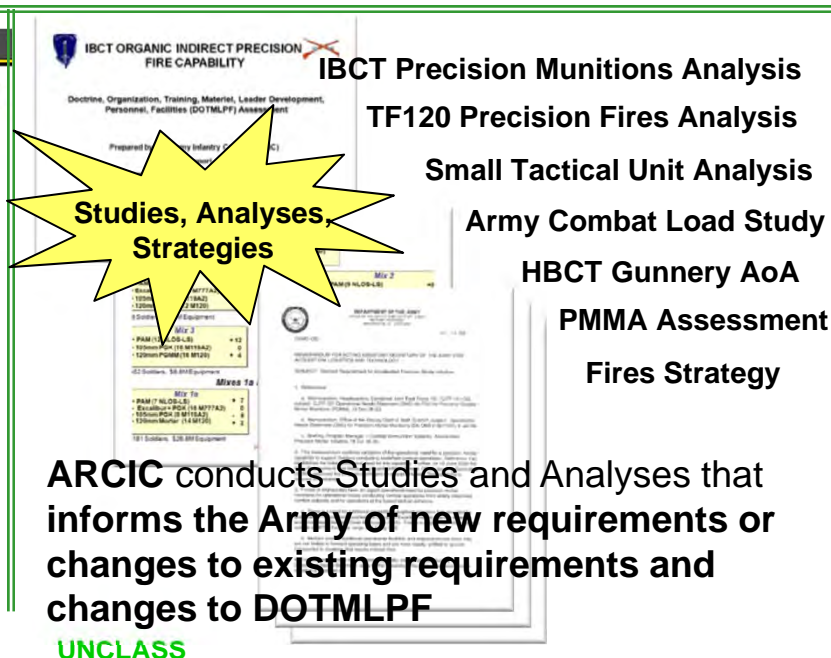
- Identifies requirements along with Proponents
- Identifies Materiel as well as DOTMLPF Solutions
- Identifies Other DOTMLPF Considerations
- Identifies changes over time to Materiel and DOTMLPF Requirements

- ✓ Key Performance Parameters
- ✓ Key System Attributes
- ✓ Informs Basis of Issue

Review



ARCIC reviews ONS as potential long term solutions (CDRT)



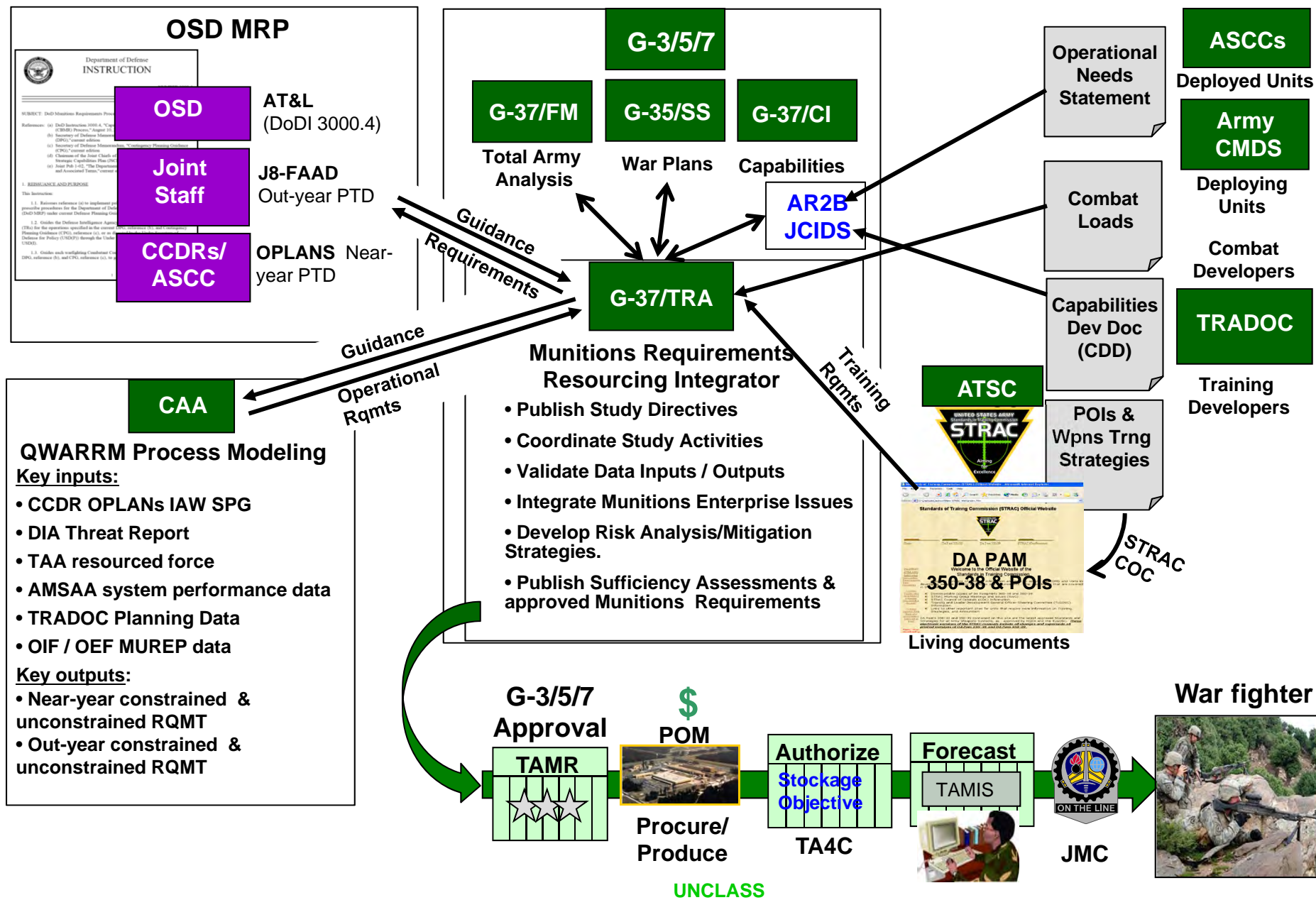
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Doctrine
Organization
Training
Materiel
Ldr Development
Personnel
Facilities



AMERICA'S ARMY: THE STRENGTH OF THE NATION

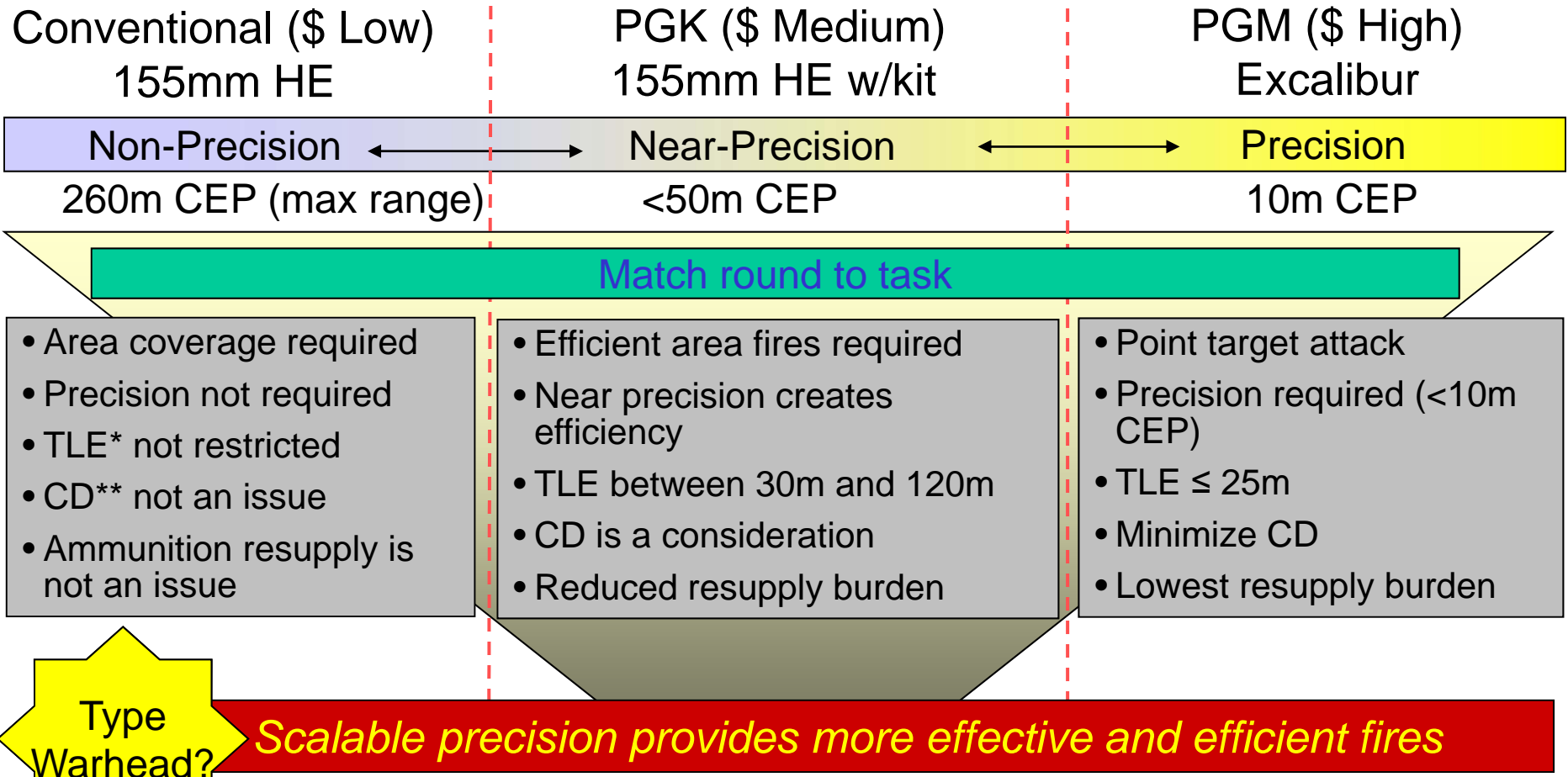
Munitions Requirements Process (MRP) "The How Many Do We Need?"





Challenge: The Right Mix of Capabilities

Challenge: Generating the right mix of munitions (conventional, near-precision, and precision) by weapon system to provide the commander at every echelon the maximum flexibility and capabilities on the current and future battlefield.



* Target Location Error (TLE)
** Collateral Damage (CD)



Challenge – The Right Mix of Capabilities

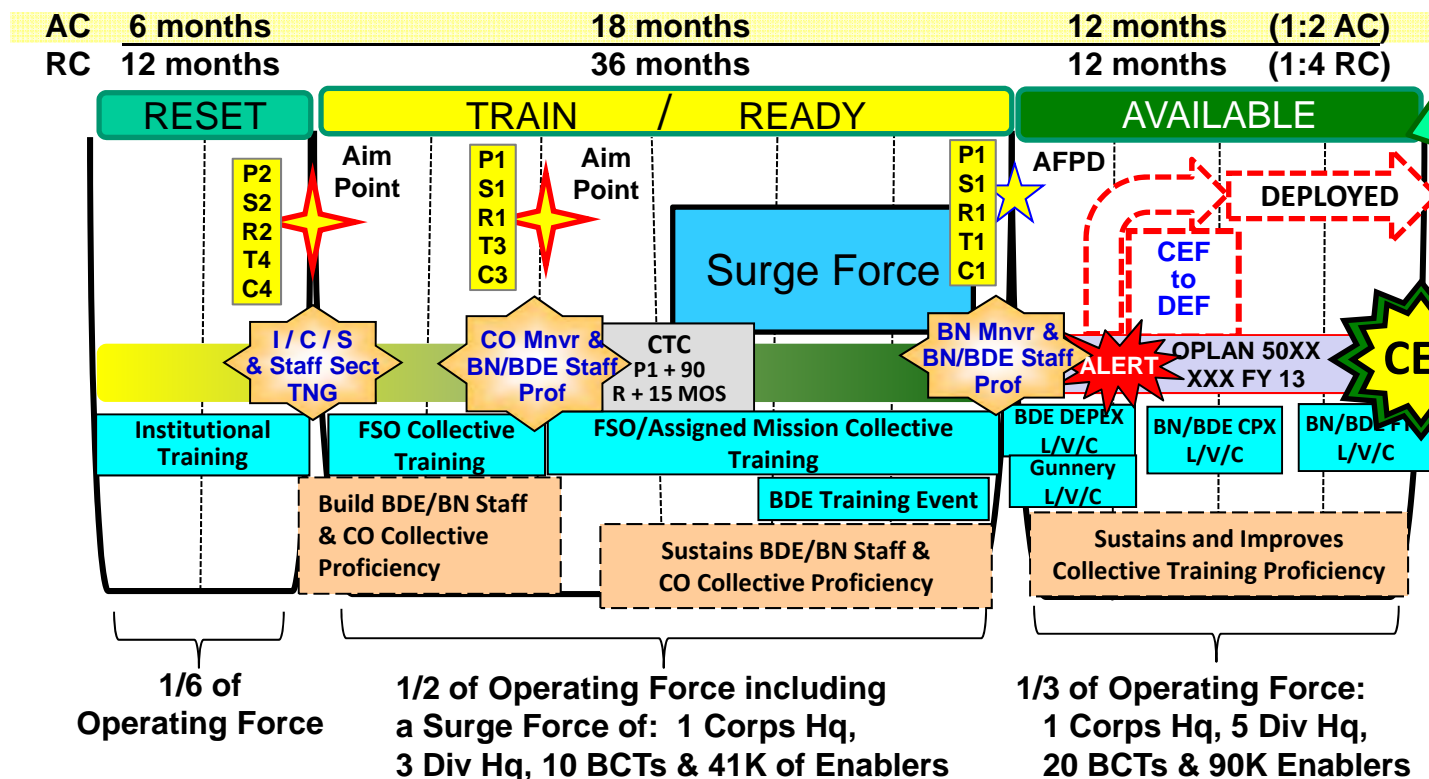
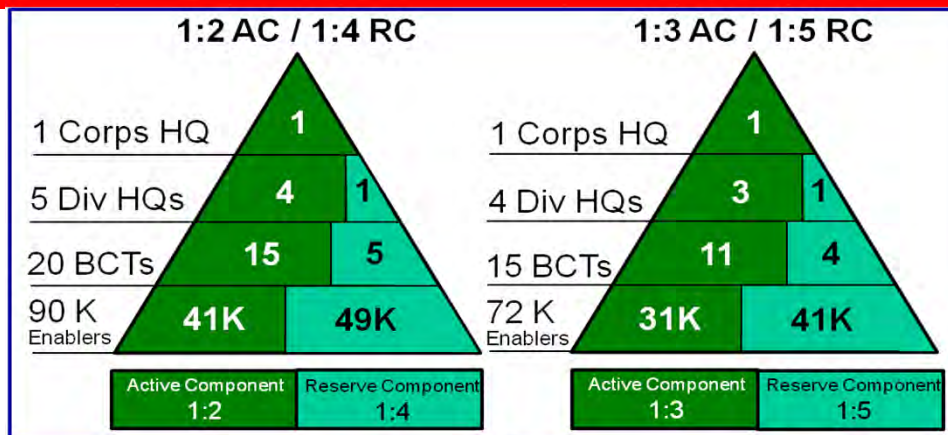




AMERICA'S ARMY: THE STRENGTH OF THE NATION

Challenge: ARFORGEN – The Rotational Model

Challenge: Generating the right mix of munitions and weapon system training strategies to support a versatile mix of tailorable and networked formations operating on a rotational model



Mission Force: The composition of forces in the Available Force Pool consisting of all Deployed Expeditionary Forces (DEFs) and Contingency Expeditionary Forces (DEF)

Legend:

I / C / S: Individual / Crew / Squad
R: Day of Return from Available Pool
CTC: Combat Training Center
L / V / C: Live / Virtual / Constructive

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➤ **Sustain the Warfight**

- Integrating Emerging Munitions (EPRs/APMI/XM25/etc)
- Aggressive Management of Operational Need Statements

➤ **Manage Army Munitions Requirements and Prioritization**

- Precision to Conventional Munitions – Right Mix?
- Advancement from Anti-Armor to Multipurpose warheads – Right Mix?
- Improved Integration of Operational Capabilities - CPR
- ARFORGEN Impact to Training Strategies - Resolution of Events Menu Matrices (EMM) and STRAC
- Operational Need Statement – Transition of Enduring Capabilities
- Cluster Munitions Replacements – In time for 2018?
- Improve Forecasting of Test Requirements involving Army Munitions

➤ **FY14-18 POM / TAMR**

- Developed IAW Department of Defense Instruction 3000.4, Munitions Requirement Process (MRP)
- OSD AT&L Implementation Guidance dictates Defense Planning Scenarios for use in MRP
- QWARRM model is our war reserve munitions requirements development process - ensure fully updated
- Training Ammunition requirements developed IAW STRAC and TRADOC POI's
- Improved Incorporation of Test Requirements



Unclassified



Technology Demands on the Future Industrial Base

Achieving Efficiencies in an Uncertain Budget Environment

TECHNOLOGY DRIVEN. WARFIGHTER FOCUSED.

Ammunition Executive Summit

Presented by: Dr. Gerardo Melendez
Director, US Army RDECOM-ARDEC

2-4Feb 2011

Distribution A: Unlimited

Unclassified **TECHNOLOGY DRIVEN. WARFIGHTER FOCUSED.**



Unclassified

Armament Research, Development and Engineering Center



Research



Development



Production



Field Support



Demilitarization



Vision

Innovative Armaments Solutions for Today and Tomorrow

Mission

To Develop and Maintain a World-Class Workforce to Execute and Manage Integrated Life-Cycle Engineering Processes Required for the Research, Development, Production, Field Support and Demilitarization of Munitions, Weapons, Fire Control and Associated Items

Advanced Weapons - Line of Sight Fire; Beyond Line of Sight Fire; Non Line of Sight Fire; Scalable Effects; Non-Lethal; Directed Energy; Autonomous Weapons

Ammunition - Small, Medium and Large Caliber; Propellants; Explosives; Pyrotechnics; Warheads; Insensitive Munitions; Logistics; Packaging; Fuzes; Environmental Technologies; Explosive Ordnance Disposal

Fire Control - Battlefield Digitization; Embedded System Software; Aeroballistics; Telemetry

ARDEC Provides the Technology for over 90% of the Army's Lethality and Significant Support to other Services Lethality



Core Competencies



Advanced Weapon Systems

- Direct Fire weapons
- Indirect Fire weapons
- Scalable lethal Effects
- Non-Lethal Systems
- Small/Medium/Large Caliber Ammunition
- Directed Energy
- Remote Armaments
- Insensitive Munitions
- Fuzes
- Telemetry
- Precision Armaments
- Grenades
- Maneuver Support Munitions
- Demolitions
- Weapons & Munitions Manufacturing technology
- Detonators
- Explosive ordnance devices

Fire Control

- Battlefield Digitization
 - Software Applications
- Embedded Systems Software
- Firing Tables
 - Aeroballistics
 - Automated Test Systems
- Optics for Fire Control
- Smart Sight
- Projectile Tracking and Control
- Vehicle Health Management System
- Software Acquisition Support
- Software Engineering Processes
- Fire Control Technologies



Logistics

- Ammunition Logistics RDTE
- Battlefield Tools and Equipment
- Packaging

Emerging Technologies

- System Engineering
- Modeling & Simulation of Armament systems
- Advanced Materials / Nanotechnologies
- Networked Lethality
- Defense Against Unmanned Systems
- Counter Terrorism Technologies
- Homeland Defense Technologies
- Novel Power & Energy Systems for weapons and munitions
- Armaments Manufacturing Science Technologies
- Reliability & Predictability Technology

Advanced Energetics and Warheads

- Propellants
- Explosives
- Pyrotechnics
- Warheads
 - Kinetic Energy
 - Chemical Energy
 - Shaped Charges
 - EFPs
 - Fragmentation
 - Thermo baric
 - Multi purpose & Scalable
 - Non lethal
- Environmental Technologies
- Demil Technologies



Technology Investments

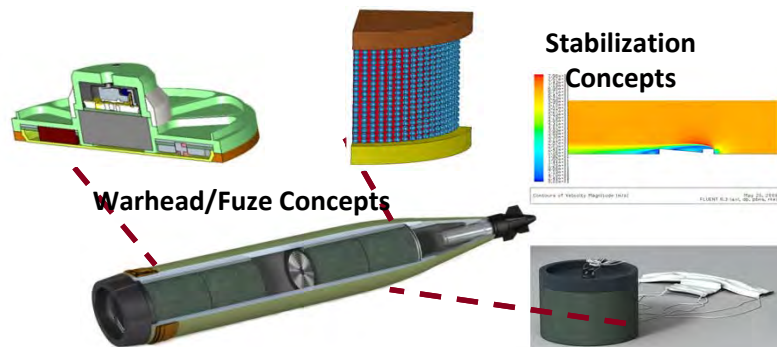




US ARMY
RDECOM

Unclassified

Cluster Munitions Replacement



Schedule & Cost

Milestone	FY11	FY12	FY13	FY14
Fuze/Power Candidates Selection				
Fuze Component Lab Tests	3	4	5	
Warhead Trade Study/Down Select				
Lethality Testing (Arena)	3	4	5	6
Submunition Dispense & Flight Stability Verification	3	4	5	
Prototype Integration	3	4	5	6
Ballistic Engineering Tests				
Integrated System Demo				
Optimize Design/ Reliability Tests				

Metrics
Unexploded Ordnance (UXO)
Payload Lethal Area (Normalized)
Number of Submunitions in 155mm Carrier
Total Payload Weight
System Reliability

Purpose:

- Demonstrate an ultra reliable, lethal NLOS Cluster Munition (CM) Alternative which is compliant with signed DoD CM Policy and achieve <1 % UXO

Products:

- 155mm cannon ballistic demonstration of integrated “full bore” sub-munition prototype
 - Flight demonstration of ultra reliable multifunctional sub-munition fuzes
 - Demonstrate optimized dispense/stabilization systems and Warhead Structural Integrity/Safety
- Arena test demonstrating enhanced lethality blast fragmenting submunition & effective lethal area
- Application scalability analysis across multiple calibers and delivery systems

Payoff:

- Warfighter operational benefits
 - Enables continued use of critical lethality capability
- Specific Transitions Concepts
 - FY14 EMD start with PM CAS to meet 2018 IOC deadline
- Benefits (ATO-D)
 - DoD CM Policy dated 19 June 2009 compliance (<1% UXO)
 - Lower costs via reuse of demilled 155mm metal parts



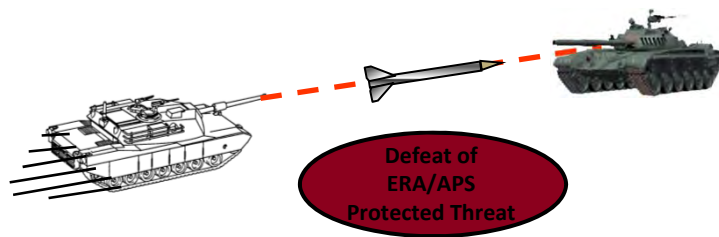


Unclassified

Next Generation Kinetic Energy (NGKE) Cartridge



120mm Next Generation Anti-Tank Cartridge



MILESTONES	FY11	FY12	FY13	FY14
System Perform. Evaluation	4	Ordnance Velocity	Hyper-Velocity	
Novel Penetrator Lethal Effects	5		4	
Tactical Deploy Mechanism		5		
DU Replacement Materials			4	
Integrated System Tests			Lethal Mech. Select	
Lethality Demonstration				6
System Accuracy Demo (LC ³)		4		5

Metrics
Normalized Penetration @ range
Hit Probability improve @ range

Purpose:

Demonstrate 120mm cartridge technology enabling defeat of current and future heavy armor threat without Depleted Uranium (DU).

Products:

- *Specific novel penetrator designs providing lethal overmatch vs. most difficult threat targets.*
- *Fully integrated 120mm Cartridge System without DU flight test demonstration at Ordnance velocity.*
- *Flight demonstration of improved precision and overall system effectiveness of 120mm KE penetrator with surrogate fire control at long range*
- *Penetration and lethality data and models proving novel penetrator performance vs. advanced full-scale armor threat targets from Ordnance through Hypervelocity impact.*

Payoff

- *War fighting operational benefits*
Maintain the Warfighters over match of current and future armor threats even if DU is no longer available.
- *Specific Transitions Concepts*
Transitions to PM MAS follow-on developments (multiple calibers) end of FY14
- *Benefits (ATO-D)*
Removes current dependence on single supplier for penetrator material





Unclassified

Advanced Munition Warhead Manufacturing Improvements



Schedule & Cost

MILESTONES	FY11	FY12	FY13	FY14
IM/ frag sleeve molding in-warhead, single inc. no post machine	4			6
Field Assisted Sintering (FAST) manufactured M-EFP		4		6
Embedded fragment		4		6
Transitions				7

MRL 7

Metrics
System Weight - MOUT
EFP - EAPS
Warhead Cost – Advanced Multi-Purpose
Embedded Fragmentation Sleeve – Cluster Munition Replacement

Purpose:

- Reduce unit production cost, system weight and enable design optimization for manufacturing advanced munitions including:
 - MOUT ATO Shoulder Launched munition
 - Extended Area Protection & Survivability ATO (EAPS)
 - 120mm Advanced Multi-Purpose (AMP)
 - Next Gen Artillery Improved Conventional Munition (ICM)/ Cluster Munition Replacement (CMR) ATO

Product:

- Reduced warhead production costs, manufacture times and improved integration of advanced system technologies in warheads, reduced system weight and design time
 - **Example:** 120mm AMP; 3 lbs lighter, \$2523.00 lower cost/ round, a 30% per round cost reduction
 - **Example:** MOUT; Reduced design constraints enabling optimized system weight

Payoff:

- Lower cost, more reliable munitions with reduced number of manufacturing processes
- Improved safety by decreasing touch labor during munition manufacture





Unclassified

IMX-104 Manufacturing Process Optimization



81 MM HE Mortar (IMX-104)



SPIDER



120 MM HE Mortar



60 MM HE Mortar



105 MM HE Artillery



M67 Grenade

x/y =TRL/MRL

Schedule & Cost

Milestones	FY10	FY11	FY12	FY13	FY14
Initial Plan/Prep		6/5			
Identify & Optimize Process Parameters		4/7			
Production Run			8/9		
Loading 81MM Mortar Cartridges			9/9		
Final Report / Transition			9/9		

Metrics

IMX-104 Unit Cost

IMX-104 Efflux Viscosity (second)

Purpose:

Establish a capability to manufacture IMX-104 with optimum parameters to reduce unit price and maintain its IM properties. IMX-104 will support the production of the 81MM HE mortar and is the leading candidate to replace Comp B and its equivalence, PAX-21 and PAX-41 as the HE fill in various munitions items.

Products:

- *Optimized production process*
- *Improved manufacturing efficiency*
- *Product with consistent IM properties*
- *ROI -24.7:1*

Payoff:

- *IM compliant product for warfighters*
- *Reduce unit cost by 20%*
- *Ability to manufacture IMX-104 on a large scale*
- *Better understanding of operating condition on the quality of final product*





ASA(ALT) & RDECOM Priorities



ASA(ALT) S&T Vectors

● **Lighten the Load**

● **Enhanced Prot./Survivability**

PTSD/TBI

● **Expeditionary Base Camps**

● **Network the Force**

● **Supply Chain Logistics**

● **Small Combat Teams**

● **Power and Energy**

● **Manned Unmanned Teaming**

● **Combat ID**

● **Converting information & data...**

RDECOM CG Priorities

■ **Logistics**
(O&S Cost Reduction)

■ **VCSA Portfolio Reviews**

■ **Robotics**

OPORD 10-010 FRAGOs

■ **ACT VI (FRAGO 1/7)**

■ **BCT Mod (FRAGO 2)**

■ **CIED (FRAGO 3)**

■ **JMR (FRAGO 8)**

■ **SID -TFT Gap Analysis**

OSD

■ **Future Vertical Lift**

■ **Mobile Base Camps**

**Technology -enabled
Capability Demonstrators
(TCD)**

■ **JMR**

■ **Lightening the Load**

■ **ACT VI (GCV)**

■ **IBD and EBC**

■ **Data to Decision**

Current/Planned ARDEC S&T Projects

- ● ■ ■ ■ ■ Scalable Technology for Adaptive Resp
- ● ■ ■ ■ ■ Advanced Warhead Technologies
- ● ■ ■ ■ ■ Advanced Energetics
- ● ■ ■ ■ ■ Gun Propellant Technologies
- ● ■ ■ ■ ■ Affordable Precision
- ● ■ ■ ■ ■ Tunable Pyrotechnics
- ● ■ ■ ■ ■ Networked Munitions
- ● ■ ■ ■ ■ Cluster Munitions Replacement
- ● ■ ■ ■ ■ Next Generation KE
- ● ■ ■ ■ ■ Lightweight Small Arms Technology
- ● ■ ■ ■ ■ Small Arms Fire Control and Lethality
- ● ■ ■ ■ ■ MOUT/Urban Lethal Technologies
- ● ■ ■ ■ ■ Extended Area Protection & Survivability
- ● ■ ■ ■ ■ Advanced Lethality and Accuracy System – Medium Caliber
- ● ■ ■ ■ ■ Stand-off Weapon System & Ammo
- ● ■ ■ ■ ■ Advanced Remote Armament System (ARAS)
- ● ■ ■ ■ ■ HPM Non-Lethal
- ● ■ ■ ■ ■ Active Denial Technology
- ● ■ ■ ■ ■ Laser Induced Plasma Channel
- ● ■ ■ ■ ■ Advanced Fire Control Technologies
- ● ■ ■ ■ ■ Ammunition Logistics



Unclassified

Industrial Base Challenges/Opportunities



- **Funding concerns**
- **Improve Tech Base to IB transitions**
- Looking for help from the Industrial Base to get the job done
 - Over past year, closer coordination with IR&D reviews have been helpful. Needs to continue.
 - We have strategies for future investments. Need your support and assistance.
 - CRADAs, experimentation agreements, early partnerships
 - Focus on cost of technology solution.
 - Joint planning to overcome future obstacles (laws, safety, interoperability, etc.)
 - Assistance to overcome the Valley of Death – what prevents us from getting projects transitioned?
 - Leverage partnerships, capability sharing
 - Identifying efficiencies to take us closer to transitioning technology
 - DOTC as a vehicle to execute S&T programs

... S&T will have impact on Industrial Base - let's work it together





Teaming with ARDEC



ATOs/Tech Base	Allan Aprea	973.724.5015
Rapid Prototyping	Bernie Rice	973.724.8501
DOTC	Don Geiss	973.724.3386
Small Arms Consortium	Frank Puszycki	973.724.6081
Test Agreements/IR&D/CRADA	Tim Ryan	973.724.7953
International Office	Lu Ting	973.724.6979

Industry/Government Tech Base investment must be focused on warfighter requirements
 – both from Combat Developer (TRADOC) and Materiel Developer (PEO/PM)

“Best of Breed” low-cost, multipurpose munition components are needed
 – IP concerns must be not impede this and must be negotiated up front

Industry proposals must be timed to support Army budget process - Out-of-cycle proposals by exception only





Unclassified

Armament Research, Development & Engineering Center



“Without lethality, it’s just another parade”





Responsive Munitions Support to the U.S. Warfighter

National Defense Industrial Association Munitions Executive Summit

LTG Bill Phillips
Principal Military Deputy
Assistant Secretary of the Army
(Acquisition, Logistics and Technology)
and Director, Acquisition Career Management
3 FEB 2011



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Agenda



- **Army Contracting and Acquisition**
- **Importance of Requirements, Resources and Acquisition Strategy**
- **Efficiencies**
- **How Industry can Help**





PEO Ammo's "Next Challenge"



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Army Contracting - Did You Know?



Q: How much did the Army spend in Contracted dollars in FY2010?

A: \$138B on over 500,000 actions



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Army Contracting - Did You Know?



Q: What proportion of Federal contracting is executed by the Army? Of Defense contracting?

A: 26% (\$138B / \$535B)
38% (\$138B / \$367B)



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Army Contracting - Did You Know?



Q: How long have contractors been supporting Warfighters on the battlefield?

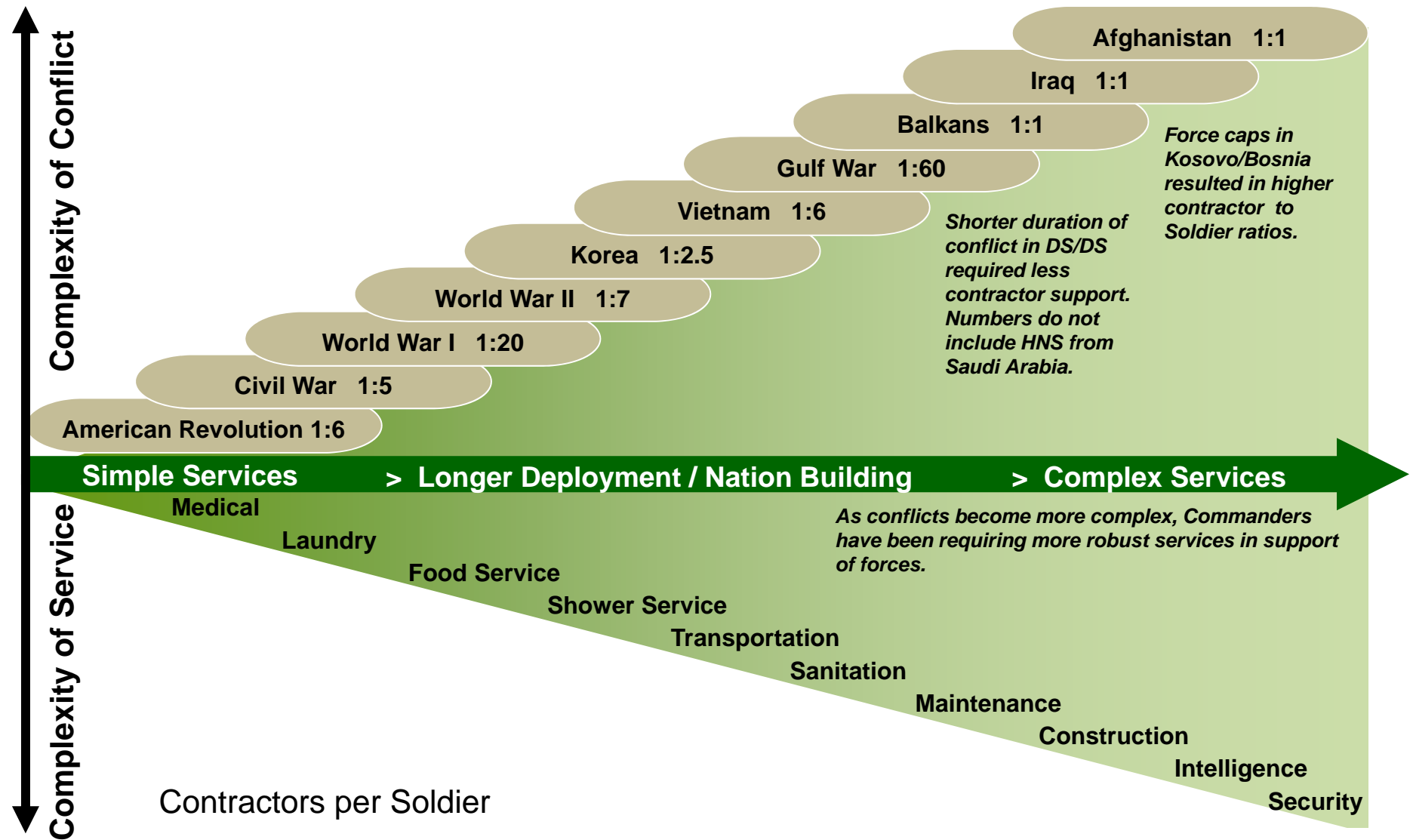
A: Since the American Revolution



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Contractors on the Battlefield



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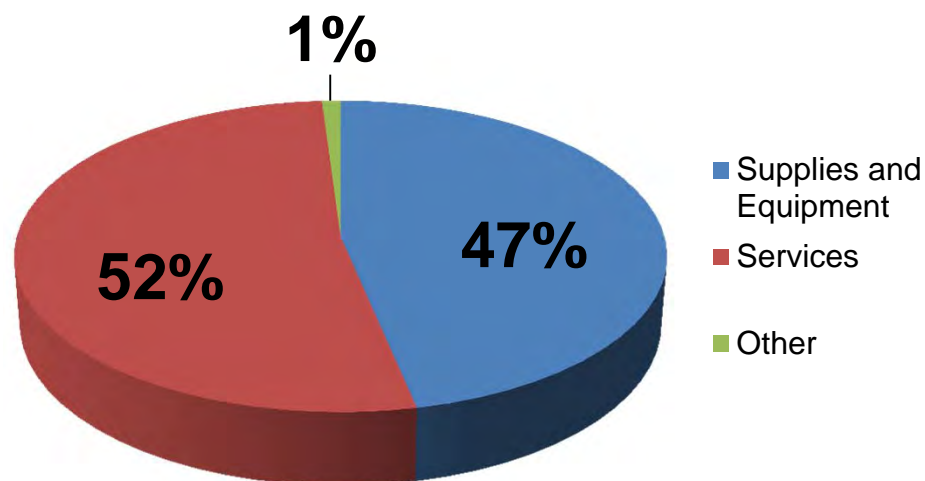
Financial Scale



2010 Top U.S. Firms (*Fortune*)

Rank	Company	Revenues (\$ billions)
1	Wal-Mart Stores	378.8
2	Exxon Mobil	372.8
3	Chevron	210.7
4	General Motors	182.3
5	ConocoPhillips	178.5
6	General Electric	176.6
7	Ford Motor	172.5
8	Citigroup	159.2
9	Bank of America	119.2
10	AT&T	118.9

Annual contracting spend is comparable to the revenue of **top** U.S. firms...



...with **52 percent** of open contracts dedicated to Services.



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Army Contracting Mission



Purchaser

Obtain the best equipment and services for Warfighters at the best price

Business Advisor

Provide timely and sound procurement advice to Army Leadership

Executive Agent

DoD Executive Agent for Theater Contracting

Manager

Recruit, develop, retain, and grow the acquisition workforce

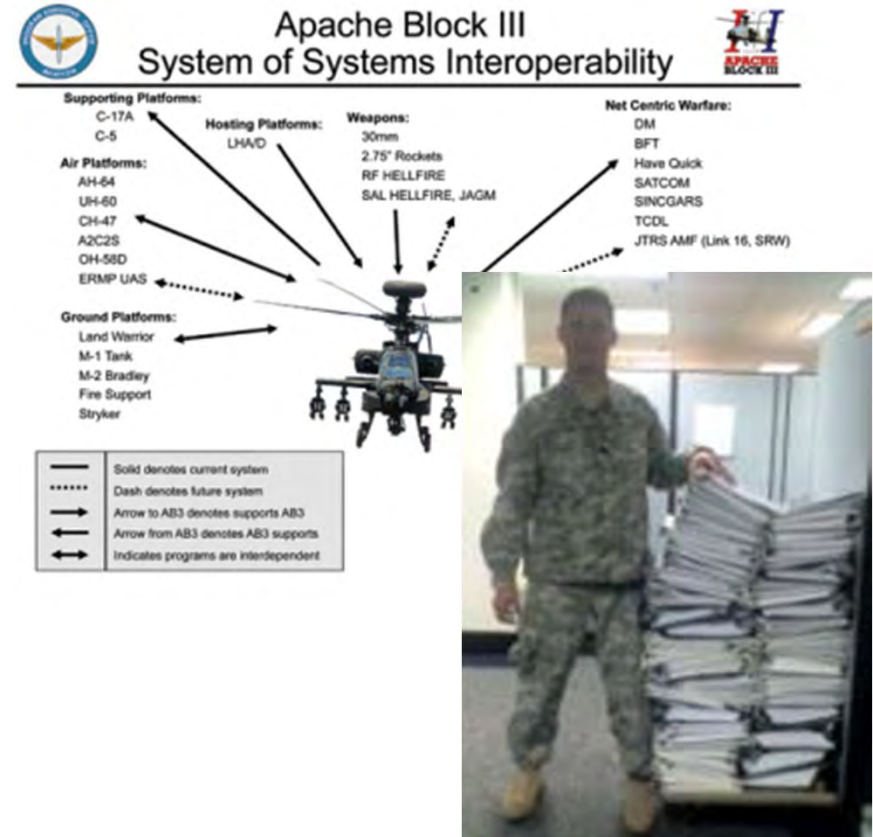
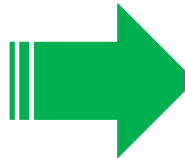
There is a contract behind every building, system, piece of equipment, clothing, service, etc...our Soldiers touch!



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Increasing Complexity



• Contract Law

- Title 10 and Title 41 Authorities
- FAR and supplements
- DFARS and supplements

- DFARS Procedures, Guidance and Information (PGI)
- AFARS and supplements



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Delivering Capabilities: “Acquisition Equities”



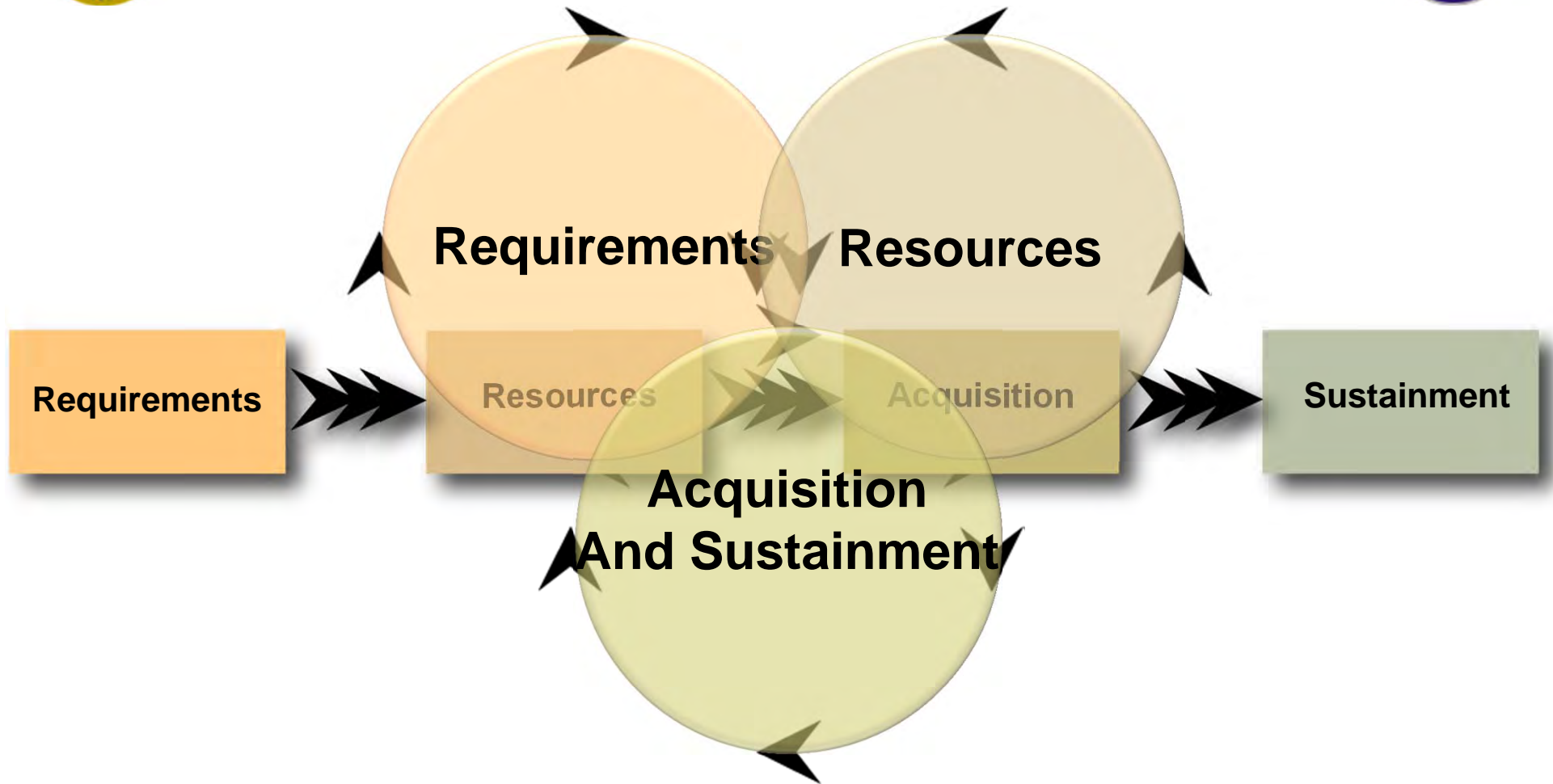
- Portfolio Reviews
- Configuration Steering Boards
- Defense Acquisition Boards
- Joint Capabilities Integration and Development System (JCIDS)
- Budget/POM
- Acquisition Study

“We need an agile system that rapidly develops, purchases, and fields innovative solutions for our Soldiers without breaking our commitment to be good stewards of taxpayers’ dollars.” – Army Secretary John McHugh





Delivering Capabilities: “Acquisition Equities”



**Acquisition Must Stay Linked to
Requirements and Resources**



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SSG SALVATORE GIUNTA



...Giunta kept going. Over the ridgeline, he saw two Taliban fighters dragging away Sgt. Joshua Brennan, who had taken the brunt of the fire as the lead paratrooper on the trail...Giunta, tossing his last grenade and emptying his rifle's magazine, killed one of the Taliban and chased off the other. He tried to keep Brennan alive until a medevac helicopter could get there. **He is the first living Soldier to receive the award since the Vietnam War.**



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Doing More Without More



OSD Efficiencies Initiative



Goal:

Two to three percent net annual growth in warfighting capabilities **without** incurring a commensurate budget increase.





Restoring Affordability & Productivity



1. Affordability/Cost Reduction

- Leveraging
- Should cost vs. Will cost
- Affordability as Requirement
- Stable Production Rate
- Portfolio Reviews

2. Contract Terms

- Type of contract
- Cash flow
- Non-value added
- Improved audits

3. Incentives

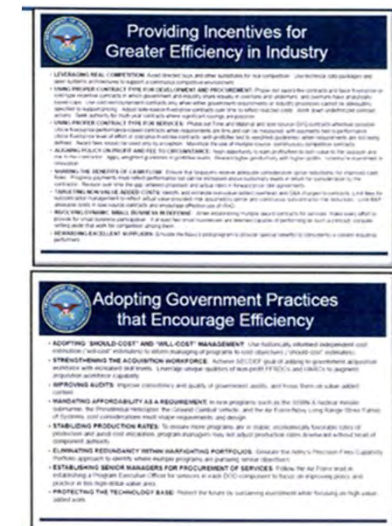
- Policy
- Small business
- Rewarding excellence
- Protect tech base

4. Measure Productivity Growth

- Metrics
- Develop out-year wedge (2-3%)
- CAPE (Industry Savings Assessment)

5. Services Tradecraft

- Management of services



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LSS Status – PEO Ammo

As of Jan 2011



- 3 completed projects in FY11 for PEO Ammo, with \$1.6M in type II savings (cost avoidance)
- We have no shortfalls on training or certification status
- Attained maturity model assessment level 5, and plan to sustain that level in the future through benchmarking and continuous process improvement
- Leaders Engaged: 100% compliance with policy for supervisors to include CPI in their performance objectives, and to sponsor at least 2 projects
- PEO Ammo selected as pilot program site with PEO Missile and Space leading the Army (OBT) in streamlining and improving the GB and BB program of instruction
- \$28.9M type II savings in FY10 for PEO Ammo
- \$19.9M in validated FY10 Value Engineering Total Savings/Cost Avoidance

**Mature Level 5 LSS organization,
On Track to Meet CPI and LSS Efficiencies and Effectiveness Goals for FY11**



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Stewardship Of National Resources

Lean Six Sigma Excellence Award Program



\$2.5 Billion Cost Avoidance!!!

ASA(ALT) WINS 2010 U.S. ARMY LEAP ORGANIZATION AWARD

ASA (ALT)) won the Lean Six Sigma Excellence Award Program (LEAP) award for the best LSS Deployment at the Headquarters Department of the Army level.

MRAP PROGRAM ACHIEVES \$2B COST AVOIDANCE

PEO CS&CSS and our Army Materiel Command and Marine Corps partners achieved an unprecedented \$2.0B cost avoidance for FY11-FY17 by establishing an improved process and prioritization tool that addresses limited resources, MRAP sustainment facilities capacity, warfighter needs, and priorities of Services and stakeholders.



CHEMICAL DEMILITARIZATION AND DISPOSAL: **80% DESTROYED**

The Army has destroyed more than 24,943 thousand tons of chemical agent in more than 2.2 million munitions and storage containers. In October 2010, the Army announced destruction of 80% of the National Stockpile of chemical agent.

The Pine Bluff Chemical Agent Disposal Facility (Arkansas) became the fourth facility to complete demilitarization of approximately 12 percent of the Nation's stockpile of lethal chemical agents.

20 August 2010 Memo: Leading Continuous Process Improvement



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Innovation



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Industry Outreach



- Secretary of the Army Initiative to host key Industry Leaders
- DoD efficiencies demand open, honest and transparent discussions with Industry...in compliance with regulations
- ASA(ALT) managing frequent, fair, even and open One-on-Ones; group meetings; and technical referrals
- We have a lot to learn from each other!!!

Purpose: Improve Comms w/ Industry
Learn from each Other
Revitalize Industry Relationships





Security Cooperation Trends



- Foreign Military Sales (FMS) Trends
 - The US Army Security Assistance Command (USASAC) is focused on strengthening global partnerships and building national defense industrial base through FMS
 - In FY2010 USASAC achieved \$14.6 billion in new FMS, continuing an upward trend
 - This increase can be attributed to the renewal national strategic push for partnership, quality of our equipment as well as on-going Contingency Operations
- Deputy Assistant Secretary of the Army – Defense Exports and Cooperation (DASA DE&C) Priority:
 - Align Materiel Enterprise Security Cooperation activities with COCOM regional objectives
 - Support COCOM and Army Service Component Command materiel requirements for priority nations to build capacity
 - Support US industrial base if aligned
 - DASA DE&C has put together a research team to build country profiles

Trend is toward proactive international engagement v. reactive response



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Export Control Reforms



- Export Control Reforms in-process to:
 - Protect most critical technologies
 - Expedite technology sharing and cooperation with partners
 - Assure exports are not made to certain countries
 - Assure compliance with international export control obligations
- New system being designed with:
 - Single export control license authority
 - Single control list
 - Single primary enforcement agency
 - Single IT system (integrate DoS and DoC systems)
- Impacts primarily Direct Commercial Sales
- Residual impacts on FMS classifications for Major Defense Equipment and Significant Military Equipment

New system will have higher walls around fewer items





Policies/Oversight That Impact Acquisition Process



- Planning, staffing and approval of Acquisition Strategy Report/Acquisition Plan
- DA Justification and Approval (J&A) approval process
- Separate J&A and Section 806 requirements for conventional ammunition items that limit competition within the National Technology Industrial Base (US and Canada)
- Limited contracting expertise due to past hiring freezes
- Reduce level of assistance from Defense Contract Audit Agency (DCAA)

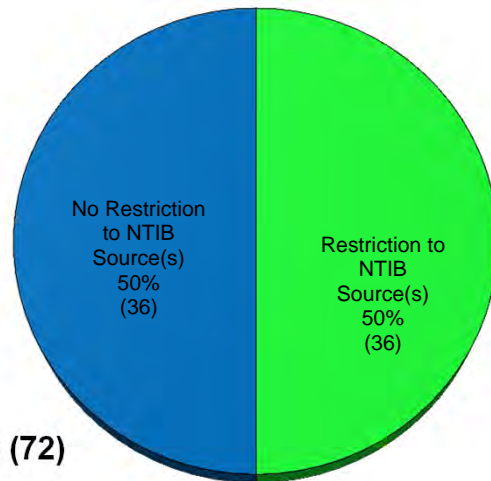
Known Issues That Must be Mitigated With Efficient Execution



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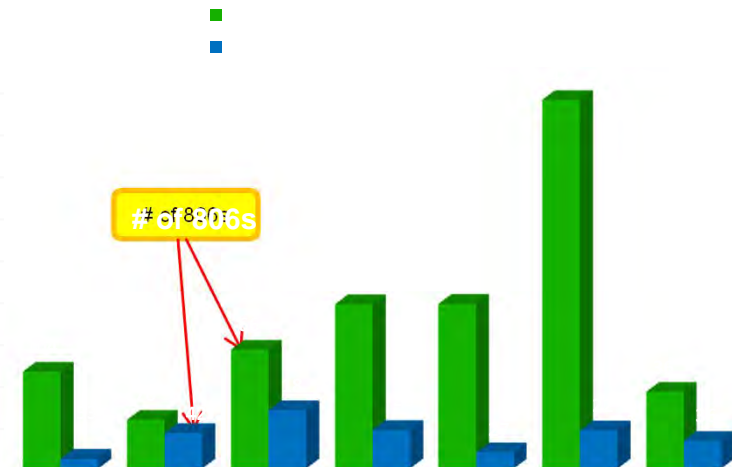


FY10 Section 806 Statistics



FY10 Section 806 (72)

NTIB Restrictions vs.
No NTIB Restrictions



- Full and Open Competition is required for Government contracts with limited exception
- Section 806 provides the SMCA the authority to limit competition to the NTIB in order maintain NTIB capability when necessary.
 - Examples of items that have been restricted under Section 806 are Nitrocellulose, RDX, HMX, Projectile Metal Parts, etc.
- The end goal is to have NTIB producers competitive on their own without Section 806 Restriction.

Significant International Competition for PEO Ammo Products Exists



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ASA(ALT) Science & Technology Partnership Opportunities



- ***Small Business Innovation Research(SBIR)/Small Business Technology Transfer(STTR)***
 - Congress established the SBIR and STTR programs to provide small businesses and research institutions with opportunities to participate in government-sponsored research and development.
 - Additional information on Army SBIR and STTR programs is at <http://www.armysbir.com>
- ***Venture Capital Corporation (VCC)***
 - The Army VCC is OnPoint Technologies, Incorporated; and the goal is to discover, invest in, and support companies developing technologies at the intersection of Army and commercial markets.
 - More information on the Army venture capital initiative is available at <http://www.onpoint.us>.
- ***Army Domestic Technology Transfer Program***
 - The Army Domestic Technology Transfer program, which includes Cooperative R&D Agreements (CRADAs) and patent license agreements (PLAs), facilitates the transfer of technology between military and civilian applications
 - More information on the domestic technology program is at <http://www.dtic.mil/ird>
- ***Independent Research and Development Program (IR&D)***
 - The Army IR&D program promotes communications between the Army and industry on Army technology needs and industry IR&D accomplishments through technical interchange meetings, promoting face-to-face technical interaction between contractors and the government and providing feedback to both parties ensuring IR&D activities are aligned with government needs
 - Further information on IR&D is available at <http://www.dtic.mil/ird>

Source: 2010 Army Science & Technology Master Plan



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Ammo Industrial Base Outlook



- Future Budget/Resource Picture (especially for Ammo)
- Reliance/focus on Joint & International
- Reliance/focus on FMS
- Implications of new policies on technology transfer/FMS
- Capability Portfolio Reviews





How Can Industry Help



- Understand and Embrace Efficiencies
- Revise Investment strategies
(we're doing very well producing huge Quantities of individual items on a line, we need to become better at producing Smaller amounts of multiple products on that same line)
- Share Risk with Government
- Seek Improvements – Implement Savings
- Support our Warriors – Save Lives!!!



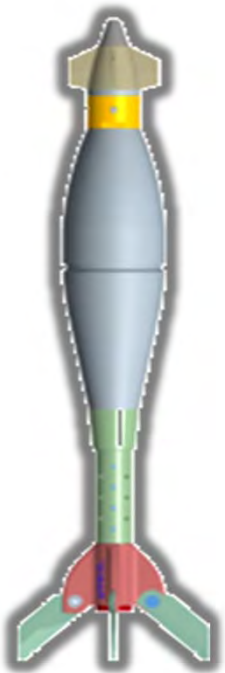


Ongoing Support and Responsiveness to Warfighter



Rapid Acquisition

- Over 40 Current / Pending Products Supporting JUONS & ONS
- Focus Areas



- Lethality & Precision
 - Advanced Precision Mortar Initiative (Precision 120mm Mortar Ctg) (Mar 11 FUE)
 - Spider Network Anti-Personnel Munition System
 - 5.56mm EPR
- IED Defeat & Force Protection
 - IED Detection & Pre-Detonation (Jackal,
 - SPARK Rollers
- Countermine & Explosive Ordinance Disposal
 - Vehicle Optics Sensor System
 - Husky Mounted Detection System





THANK YOU!



***for Supporting our
Warfighters***





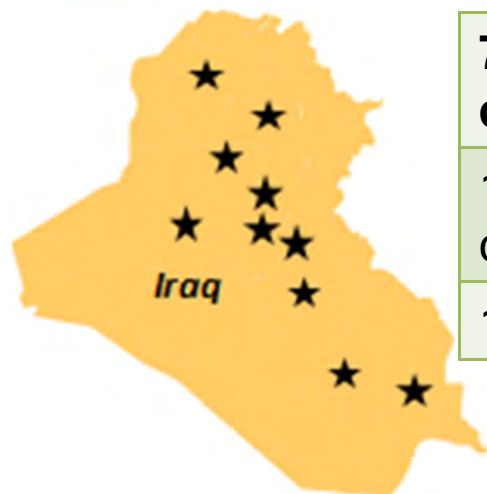
BACK-UP



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Contractors in the Fight Today



71,142 contractors	87,483 contractors
1.29 to 1 contractors/soldier	0.84 to 1 contractors/soldier
14% local nationals	53% local nationals

1st quarter FY2011



How much do contractors cost in theater?

	Iraq	Afghanistan
LN	\$34K	\$31K
TCN	\$70K	\$48K
US	\$258K	\$258K



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Supporting Ops in Iraq: An Analogy



**Contracted Support
is Essential!**

**Equivalent to providing
meals, housing,
utilities, and services to**

**250,000
people scattered over
terrain the size of**

California!



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Acquisition Overview



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FOX NEWS
NEWS
.COM

GEN GEORGE CASEY JR
ARMY CHIEF OF STAFF

FOX NEWS :
ON THE
JOB HUNT

KNOWLEDGES UNEMPLOYMENT WILL PROBABLY RISE EVEN MORE



Acquisition and Contracting Initiatives



Workforce Expansion

- Hiring 1885 acquisition professionals by FY15
- Created an enlisted contracting MOS for NCOs (51C)

New GO Positions

- Five new contracting GO positions (four filled)

ACC, MICC, ECC

- Established 2-Star Army Contracting Command
- 1-Star Mission and Installation, Expeditionary Commands

OCS/P

- Established new Operational Contracting Support and Policy Directorate under the DASA(P)

Training and Doctrine

- Two-week OCS Course
- GO/SES Contracting Course
- BCTP
- MRE/MRX

CORs

- Increased and renewed emphasis on training
- COR EXORD



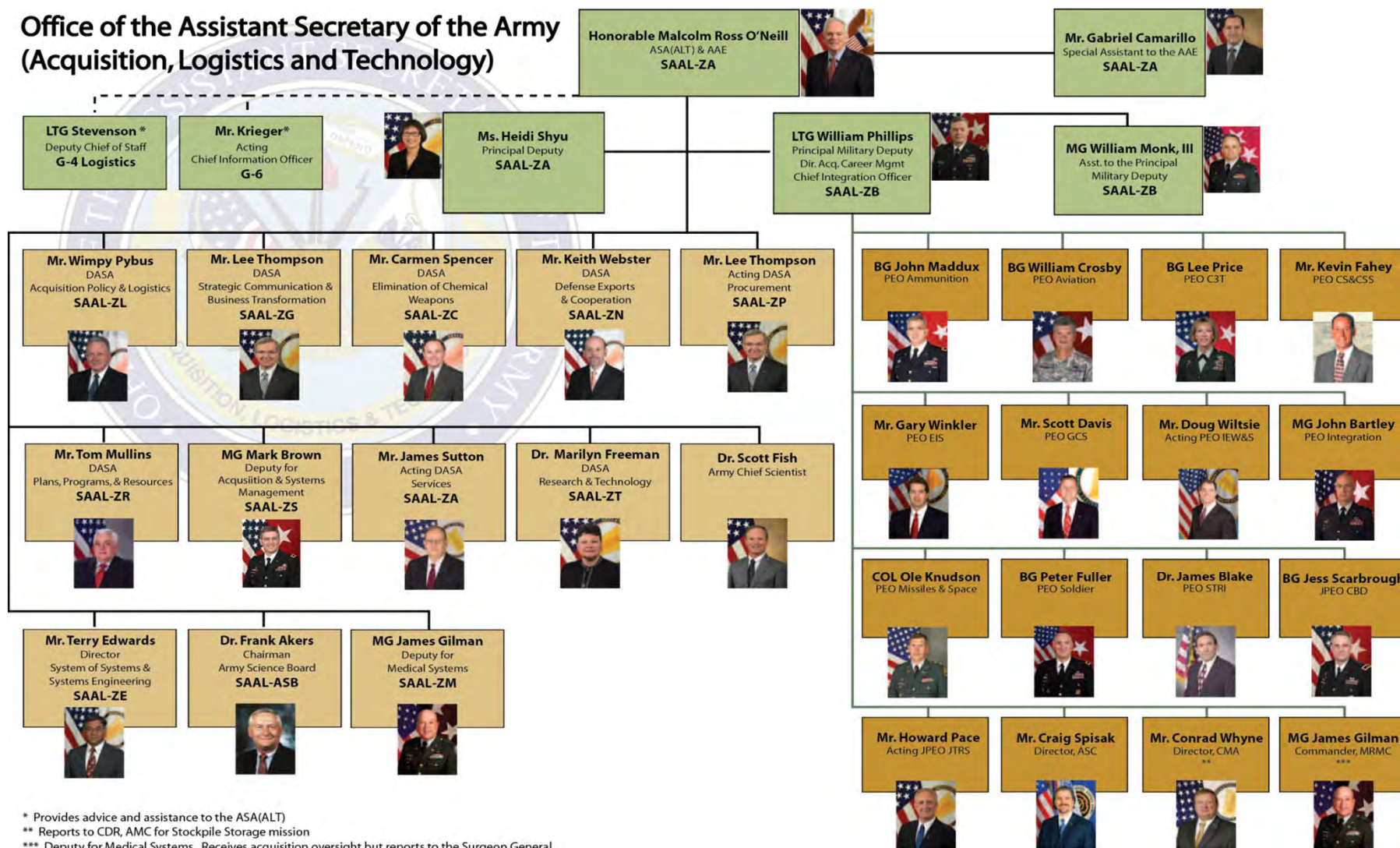
Leadership Involvement in Contracting



Acquisition Leaders



Office of the Assistant Secretary of the Army (Acquisition, Logistics and Technology)



* Provides advice and assistance to the ASA(ALT)

** Reports to CDR, AMC for Stockpile Storage mission

*** Deputy for Medical Systems. Receives acquisition oversight but reports to the Surgeon General



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ASA(ALT) STRATEGIC CONTEXT: MOVING FORWARD...



1. **Soldiers are our Most Precious Asset!**
2. **While accomplishing the mission, Soldiers will be protected to the maximum extent allowed by their equipment, tactics, and joint support.**
3. **Acquisition Focus:**
 - i. Maintain high quality of Army end items which prove decisive for mounted Soldiers
 - ii. Exploit to the maximum, the joint arena (air and maritime) which dominate these venues
 - iii. **Create a decisive dismounted Soldier**





High Standards of Ethics & Discipline in Contracting is Key



FRAUD! **DO THE CRIME - DO THE TIME**

Major John Cockerham

- USA Contracting Officer
- Sentenced for bribery, conspiracy, and money laundering of over \$9M in bribes



On 2 December 2009 Cockerham and his cohorts were sentenced to the following:

John L Cockerham

210 Months in Prison
\$9.6M in Restitution

Melissa Cockerham (Wife)

41 Months in Prison
\$1.4M in Restitution

Carolyn Blake (Sister)

70 Months in Prison
\$3.1M in Restitution

Nyree Pettaway (Niece)

12 Months in Prison
\$5M in Restitution

Iraq Fraud Detachment (CID)

Camp Victory, APO AE 09342

DSN: 485-6005, SVOIP: (302) 243-4796

**1/3 of the procurement fraud cases being investigated involve
"contracting professionals"**



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Dr. Carter Efficiencies

PEO Ammo Implementation Status

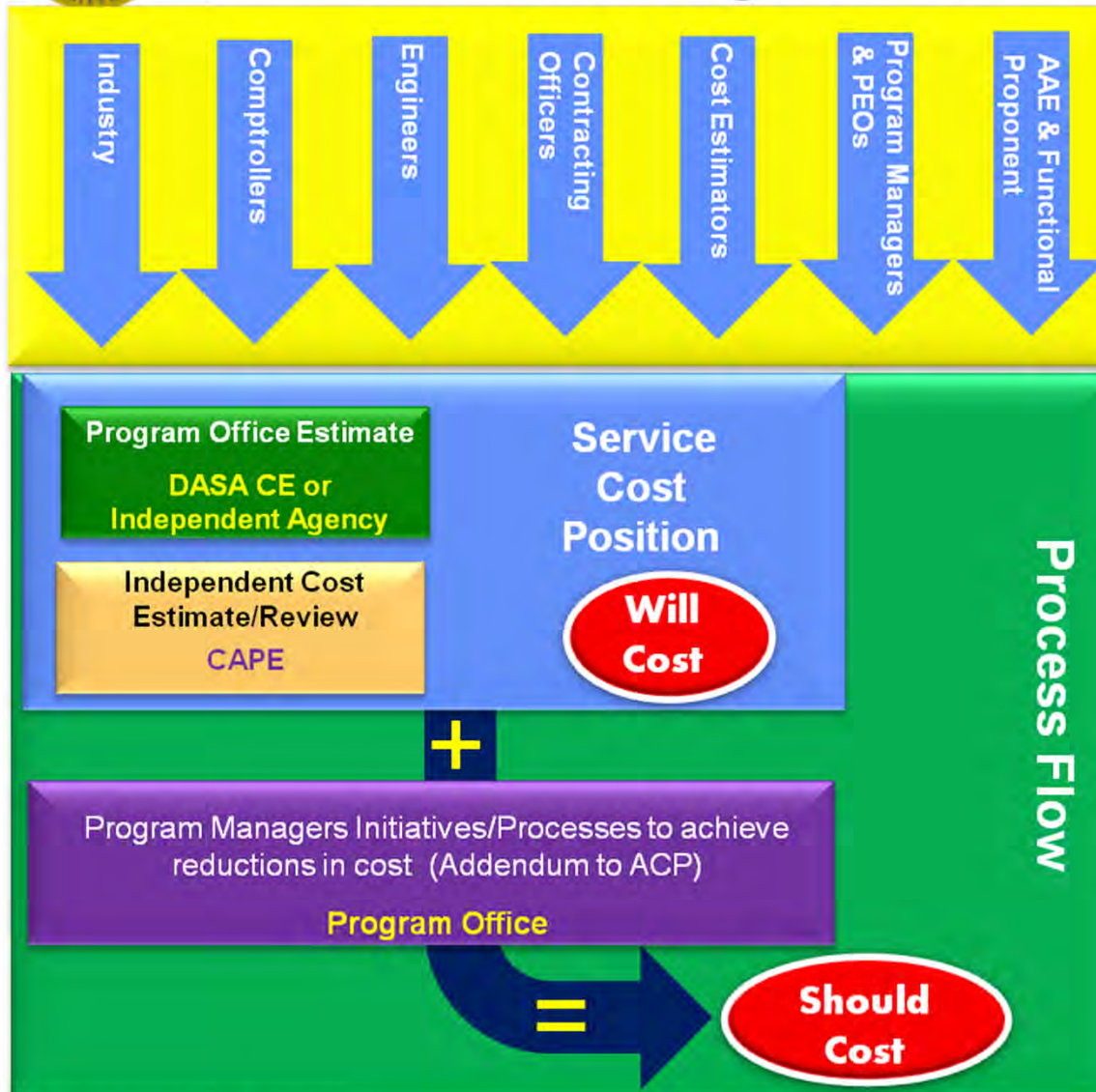


- **Establish “Should Cost” Estimates for ACAT II and III Programs**
 - Guidance on Methodology Provided to PM’s
 - First Estimates Planned for ACAT II Program Reviews – April 2011
 - Estimates for ACAT III’s Planned for Semi-Annual Program Reviews in Summer 2011 or Next Milestone Decision – Whichever Comes First
 - ✓ Exemption for Legacy Ammunition
- **Conduct Portfolio Reviews for ACAT II and ACAT III Programs**
 - Planned to Be Integrated with Semi-Annual Program Reviews in Summer 2011
 - By 30-SEP-11 PEO Will Provide Summary of the Review Results to ASA(ALT), as Well as a Cover Memo Highlighting Major Efficiency Activities Performed
- **Make Production Rates Economical & Hold Stable – for ACAT I Programs**
 - Done for Excalibur, Will Track and Report Any Deviations
- **Conduct Business Case Analysis with Engineering Trade Analysis at MS B**
 - Recommendation to Not Implement Until Official Clarification/Guidance Provided
- **Incentivize Supply Chain and Indirect Expense Management**
 - Recommendation to Not Implement Until Official Clarification/Guidance Provided
- **Adjust Progress Payments to Incentivize Performance**
 - AAE to Identify Pilot Programs on Behalf of Army. Not Asking for PEO Ammo Nomination





“Should Cost” Management Construct



- **Service Cost Position**
 - A reconciliation of the POE and the ICE
 - Represents the “Will Cost” for the program
 - Identifies key cost drivers and areas of risk
 - Independent Cost Verification for smaller programs vis-à-vis ICE
- **Program Managers Initiatives**
 - Leverages information from the Service Cost Position on key cost drivers and risk
 - Relies on cross-functional collaboration and commitment
 - Includes cost elements against the Will Cost to track projected savings
 - Includes Risk Mitigation and Cost Reduction Plan
 - Discusses and identifies how savings can be reasonably achieved by changes in processes, materials, or investment in new technology
- **Program “Should Cost” Management**
 - Determined by subtracting the projected savings from the PM Initiatives from the Approved Cost Position funding
 - Tracked by Army Acquisition Executive or designee and reports progress over time





Innovative Financing Pilot Program



Adjust progress payments to incentivize performance:

Effective January 1, 2011, **you will identify pilot programs** to use innovative financing methods as a negotiating tool. To assist in this effort, I have directed the Director, Defense Procurement & Acquisition Policy (DPAP) to immediately develop a cash flow model and to provide guidance for the use of a preferred hierarchy of innovative financing methods described in the model that takes into consideration the lifecycle phase of weapon system programs. Emphasis should be placed on flow-down provisions to subcontractors as well.

Status: According to ASAALT staff the onus is on the AAE to identify pilot programs on behalf of the Army. They are not asking for a PEO Ammo nomination. The cash flow model, guidance and preferred hierarchy has not been released.

Recommendation: Based on our own research into this topic, it will be fairly risky for programs that are on the leading edge here. Reference - DOD IG Audit IG-98-033 "Early Payment and Billing Frequency on Long-Term Contracts" September 28, 1998. Specifically, when using increased billing frequency or accelerated payment of invoices as a negotiation concession it is very difficult to show that the government has received proper value in return. The "cash flow model" that DPAP is on the hook to develop is required to value the innovative financing method to ensure government receives correct value for what the treasury will lose in interest. Director of JM&L contracting center Mr Bruce Berinato has seen a pre-release demonstration of the cash-flow model and attests to its utter complexity.





Summary of Army Efficiency Initiatives



- VCSA Portfolio Reviews (Purpose and Outcomes wrt Ammo)
- MECC/MALT
- Business Transformation
- LSS
- Value Engineering
- Employee Cert/CLPs





Lean Six Sigma and Continuous Performance Improvement



- 10 Critical Success Factors to measure deployment success and higher maturity levels across each PEO, outlined in MilDep Sends, Dec2010

	<u>PEO</u> <u>AMMO</u> <u>Score</u>
	92
1. <u>Results</u> : higher ROI (return on investment), validated benefits for projects documented in Army PS	96
2. <u>Organization</u> : full time DD and MBB on TDA to boost performance of projects and teams	92
3. <u>Leadership</u> : leaders committed and engaged as project sponsors, supervisors and GOs must sponsor and complete 2 projects per year	93
4. <u>People</u> : Business Transformation, CPI and LSS are in performance objectives of employees	93
5. <u>Project Management</u> : integrate information flow, select projects through fact based objective process linked to organization's mission and priorities, cancel <10% or projects after the define tollgate	95
6. <u>Measurement, Analysis and Knowledge Management</u> : integrate information flow, improve enterprise management, share best practices, monitor projects with Power Steering dashboard, review performance against mission and strategic priorities	90
7. <u>Training</u> : train and sustain a CPI culture, certify 5% of TDA in Green Belt, certify 1% of TDA in Black Belt, train 100% of project sponsors (GS14 and above)	93
8. <u>Strategy & Doctrine/Strategic Planning</u> : Fully link strategic planning, business transformation process and execution of CPI/LSS projects to improve mission. Have strategic plan in place to achieve organizations strategic goals	93
9. <u>Customer Focus</u> : engage customers to generate improved value and build productive relationships	93
10. <u>Process Management</u> : design, manage and improve key work processes to deliver value & achieve sustainable organizational success	93

100

Mature Level 5 LSS Organization, leading the way in meeting Critical Success Factors





Continuous Learning Points, Acquisition Position Certification



- Continuous Learning Points are critical to ensure a highly qualified workforce is in place to support the Warfighter
 - Historically, PEO Ammo employees are 100% compliant with 80 CLPs or more for every 2 year cycle
 - 46% of PEO Ammo employees have begun CLP activity for the new reporting period (01 Oct 2010 – 30 Sept 2012)
- Acquisition Position Certifications
 - 98% PEO Ammo employees are certified in their designated career field (only 4 not certified, 2%)
 - All 4 have attained Level II and are scheduled to attend classes to attain Level III certification in FY11

Highly Qualified Munitions Workforce to Support the Warfighter





Precision Fires Capability Portfolio Review



- Led to Precision Fires Configuration Steering Board Decisions
 - Excalibur
 - Army Procurement Objective Reduction from 30,000 to 6,264
 - Total Reduction on Program Funding >\$800M
 - APUC Increases from \$47k to an Estimated \$98k
 - Continue Incremental Acquisition Strategy of Increment 1b - More Affordable and More Reliable
 - Precision Guidance Kit
 - This Program Was a Key Decision Factor in the Excalibur Quantity Reduction Decision
 - Milestone Decision Authority Change from PEO to AAE Due to High Interest
 - Accelerated Precision Mortar Initiative (120mm Urgent Material Release Effort)
 - Confirmed Requirement & Emphasized Urgency
 - Non Line of Site Precision Attack Missile Cancelled





Secretary of the Army-Designated Capability Portfolio Reviews



- Purpose: To Conduct Army Wide Reconciliation of Requirements
- Approach: Holistically Examine, Validate, or Modify Requirements Driving Capability Development
- Reconcile and Have Full Visibility of Requirements Being Acquired Through Programs of Record and Rapid Acquisition
- Reconcile Portfolios Through Examination of:
 - COCOM requests (ONS/JUONS)
 - Wartime Lessons Learned
 - Ability to support ARFORGEN (Capability Packages, Theater Provided Equipment, Readiness Indicators, Reset/Recap, etc)
 - Emerging technologies (REF, DARPA, etc)
 - Affordability
 - Opportunity





Mobility/Counter-Mobility Capability Portfolio Review



- Led to Ammunition Configuration Steering Board Decisions
 - Airborne Surveillance, Target Acquisition, and Minefield Detection System (ASTAMIDS) & Ground Standoff Mine Detection System (GSTAMIDS)
 - Army terminated ASTAMIDS platform, Firescout, and GSTAMIDS platform, the Multifunction Utility/Logistics Equipment –Countermine/MULE-C
 - No further requirement has been approved
 - Orderly terminate the Programs of Record (POR)
 - Scorpion Intelligent Munition System and Spider Munition System
 - Merge Anti Personnel/Anti Vehicle alternative systems into a more affordable Spider Increment 2
 - Reinvest other savings from Scorpion program into Explosive Hazard Defeat and Route Clearance technologies
 - Spider Increment 2 would leverage technology investments to provide:
 - Improved Control Station, capable of interfacing with the Net
 - Capability to employ a suite of Army common AP and AV/lethal and nonlethal munitions
 - Accept near term, temporary risk against heavy armored threats but investigate options to develop and procure a lower cost heavy AV munition





Immediate Effects of Efficiency Initiatives on Industry



- Reduction of “1-bid” Contract Competitions
 - When only 1 bid is received, contracting officer will require cost & pricing data and must negotiate
 - Solicitations open for less than 30 days that receive only 1 bid will re-advertise for additional 30 days
- Reduction of Time & Materials Type Contracts
- More Frequent Re-competes of Service Contracts
 - 2 to 3 year contract terms instead of 5 year
- Increase use of Fixed-Price Incentive Firm Contract Type
 - Specifically in transition from Development to Production
 - Default position 50/50 sharing and 120% ceiling
- Closer Scrutiny on Supply Chain and Indirect Expense Management
 - Expect government to relook current component breakout vs. system integrator arrangements
 - “Weighted Guidelines” for profit policy expected soon

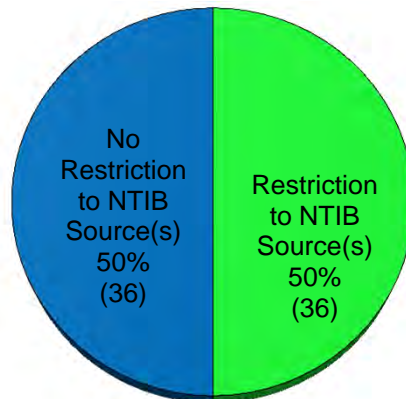




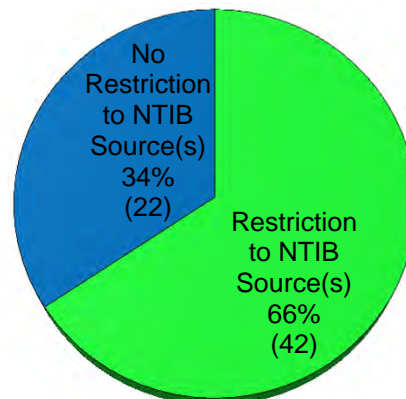
FY10 Section 806 Statistics



FY10 Section 806 (72)
NTIB Restrictions vs.
No NTIB Restrictions



FY09 Section 806 (64)
NTIB Restrictions vs.
No NTIB Restrictions



NTIB Restrictions vs. No NTIB Restrictions by Fiscal Year

- Full and Open Competition is always encouraged.
- Section 806 gives the SMCA the authority to limit competition to the NTIB in order to protect NTIB capability when necessary.
 - Examples of items that have been restricted under Section 806 are Nitrocellulose, RDX, HMX, Projectile Metal Parts, etc.
- The end goal is to have NTIB producers competitive on their own without Section 806 Restriction.

Significant International Competition for PEO Ammo Products Exists



DESIGN • DEVELOP • DELIVER • DOMINATE
SOLDIERS ARE THE DECISIVE EDGE

UNCLASSIFIED

PEO Missiles and Space Overview

2011 Munitions Executive Summit
3 February 2011



Presented by:
Mr. Barry Pike
Deputy Program Executive Officer
Missiles and Space



Distribution A: Approved for Public Release,
Distribution Unlimited



PROGRAM EXECUTIVE OFFICE MISSILES AND SPACE

MISSION:

Provide Overall Direction and Guidance for the Development, Acquisition, Testing, Product Improvement and Fielding of Assigned Systems While Ensuring Total Ownership Cost Reduction. To Diligently Work With International Partners to Support Multi-National Programs as Well as Fostering Foreign Military Sales in Support of National and Army Objectives.

What We Do:



- Centralized Management for All Army Tactical and Air Defense Missile Programs and Selected Army Space Programs
- Full Life-Cycle Management of Assigned Systems
- World Wide Support of Fielded Weapon Systems
- Key Link Between the User and Tech Base
- Co-Direct the JAMD Community of Interest (JAMD COI)

What We Manage:

- Six Project Offices
- Twelve ACAT I, One ACAT II and Seven ACAT III Programs
- Two International Cooperative Development Programs
 - US MEADS National Product Office

Workforce:
Government ~ 1,000
Support Contractors ~ 530

Managing

FY10
Appropriated Funding > \$3.5B
FMS > \$0.90B, 35 Countries

To

Support the Warfighter

PEO MS Vision: Be the Trusted Worldwide Provider of Missile Systems for Our Allies and U.S. Warfighters with Uncompromising Service in Development, Procurement, and Sustainment



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PEO MISSILES AND SPACE ORGANIZATION

Program Executive Office





UNCLASSIFIED

THE ARMY MISSILE BUSINESS

FMS

- 35 Countries
- Total FMS Case Value: \$25.3B
- FY10 FMS Funding ~\$0.9B
- FY11 Projected FMS Funding ~\$10B

Joint / International Representation

- 3 USMC and 2 USN Officers / 13 USN Civilians
- 33 International Officers / Enlisted / Civilians
 - Representing 14 Countries

Co-Op Programs

- MEADS
 - Germany
 - Italy
- MLRS
 - Germany
 - Italy
 - UK
 - France

Services

- Army
- Air Force
- Navy
- Marine Corps

Army Users

- Army Capabilities Integration Center (ARCIC)
- Fires Center
- Aviation Center
- Maneuver Center



SUPPORT TO THE WARFIGHTER



MLRS Rockets

- 894 US Rockets Expended
- Over 1900 GMLRS Unitary Rockets Expended



- Over 13,230 Hellfires Expended
- Over 255,450 2.75" Rockets Expended



HELLFIRE HYDRA 70 Viper Strike



JAVELIN

- Over 1360 Weapons Expended



JTAGS

- 1st Fielding of Automated Data Processing Equipment



Cruise Missile Defense Systems

- KIOWA M3P Machine Gun: Over Two and a Half Million Rounds Fired



- Special Mod to Enhance Force Protection



PATRIOT

- PATRIOT: 22 Expended



ATACMS

- Over 510 Fired In-Theater

- Over 7690 Weapons Expended

TOW-ITAS



Homeland Defense

- Short-Range Air Defense to Protect Critical Assets (Sentinel Radar, STINGER and Avenger)





CHALLENGES AND OPPORTUNITY

- **Cost Reduction / Efficiency**
- **Smaller, Lighter, Cheaper**
- **Competitive Prototyping / Data Rights**
- **Quality**
- **Extended Range / Scalable Effects**
- **Obsolescence**
- **FMS Leverage**
- **Condition Based Maintenance**



QUESTIONS



Project Director Joint Products

***JP MISSION: Manage SMCA
acquisition of assigned
conventional ammunition
efficiently and effectively***

Munitions Executive Summit Acquisition Panel Brief

4 February, 2011

Col Victor Rodriguez
Project Director
Joint Products
973-724-6487

Victor.M.rodriguez@us.army.mil





Project Director Joint Products Origin of Organization



PM Joint Services

- Industrial Base Management
- Demilitarization
- Bombs and Energetics
- Technology and Prototyping
- Ammunition Logistics
- SMCA/Service Integration

Project Director, Ammunition Base

- Industrial Base Management
- Demilitarization
- Technology and Prototyping
- Ammunition Logistics
- SMCA/Service Integration

Office of the Executive Director for Conventional Ammo (O/EDCA)

- Assessment, oversight and support of Army execution of SMCA

Project Director, Joint Products

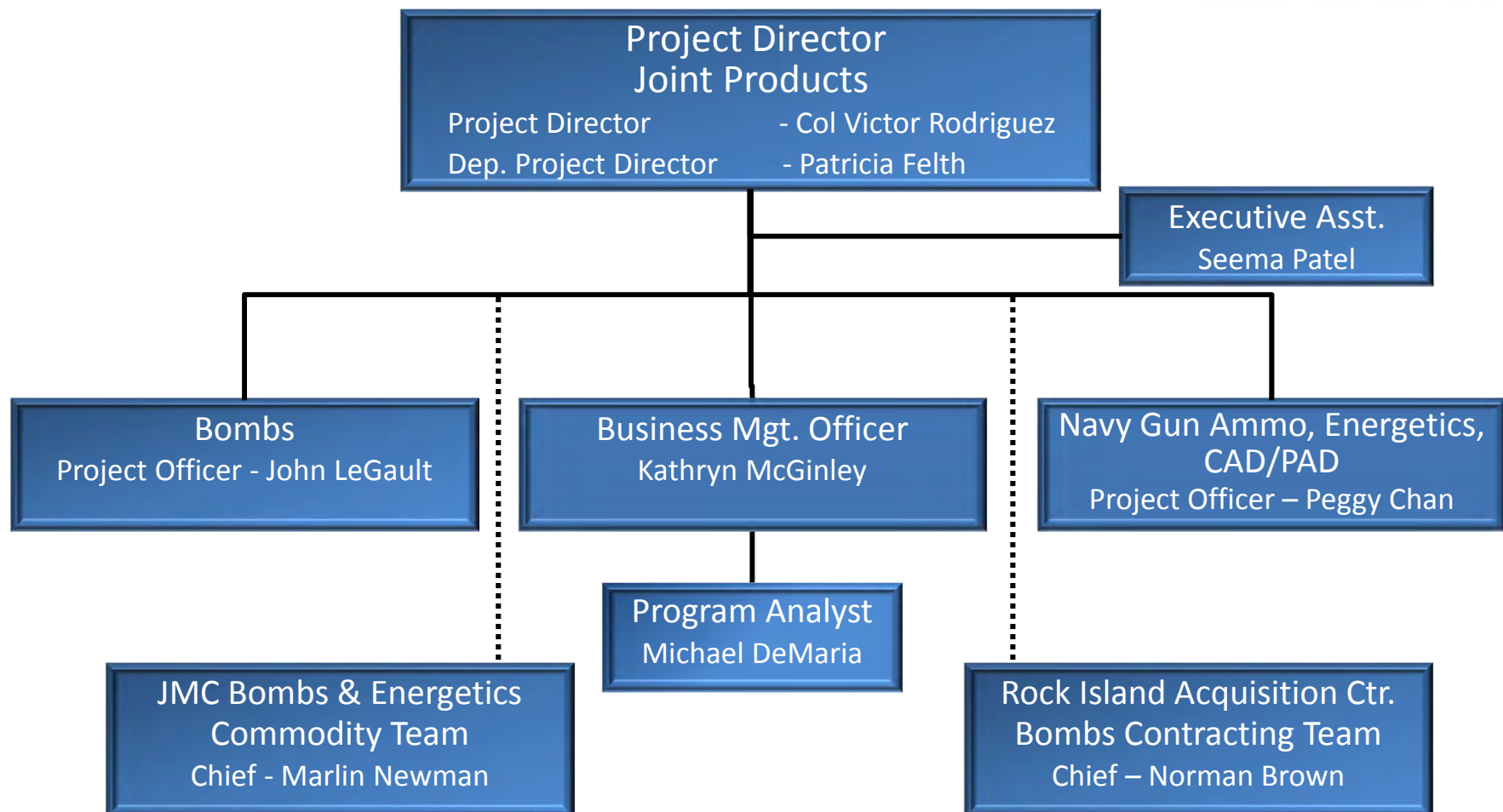
- Bombs and Energetics
- Navy Gun Ammunition
- Support of Army execution of SMCA
- SMCA/Service Integration

EDCA Assessments

- Assessment and oversight of Army execution of SMCA
- SMCA/Service Integration



Project Director Joint Products Organization Chart





Project Director Joint Products Portfolio



BOMBS (FY10 Quantities = 145K bombs and 5.7K Fuzes/fins/lugs)



MK80 Series
GP Bombs



Navy and Air Force
Practice Bombs



Bomb Fuzes, Fins
and Lugs



Navy and Air Force
Penetrator Bombs



NAVY GUN AMMO (FY10 Quantities = 7.5K [5"/54 Cal Prop Charges])



Navy Gun Ammo



Deck Gun firing 5"/54 Cal Ammo



76mm Gun Ammo



5"/54 Cal Gun Ammo bodies,
prop charges and fuzes

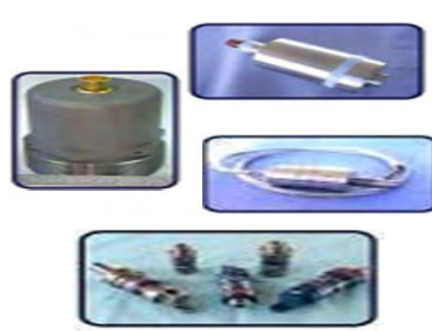


CAD/PAD (FY10 Quantities = 5.7K)

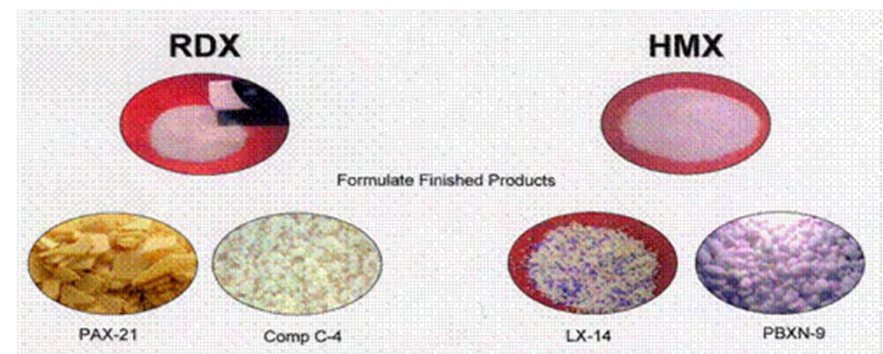
Cartridge Actuated Devices



Propellant Actuated Devices

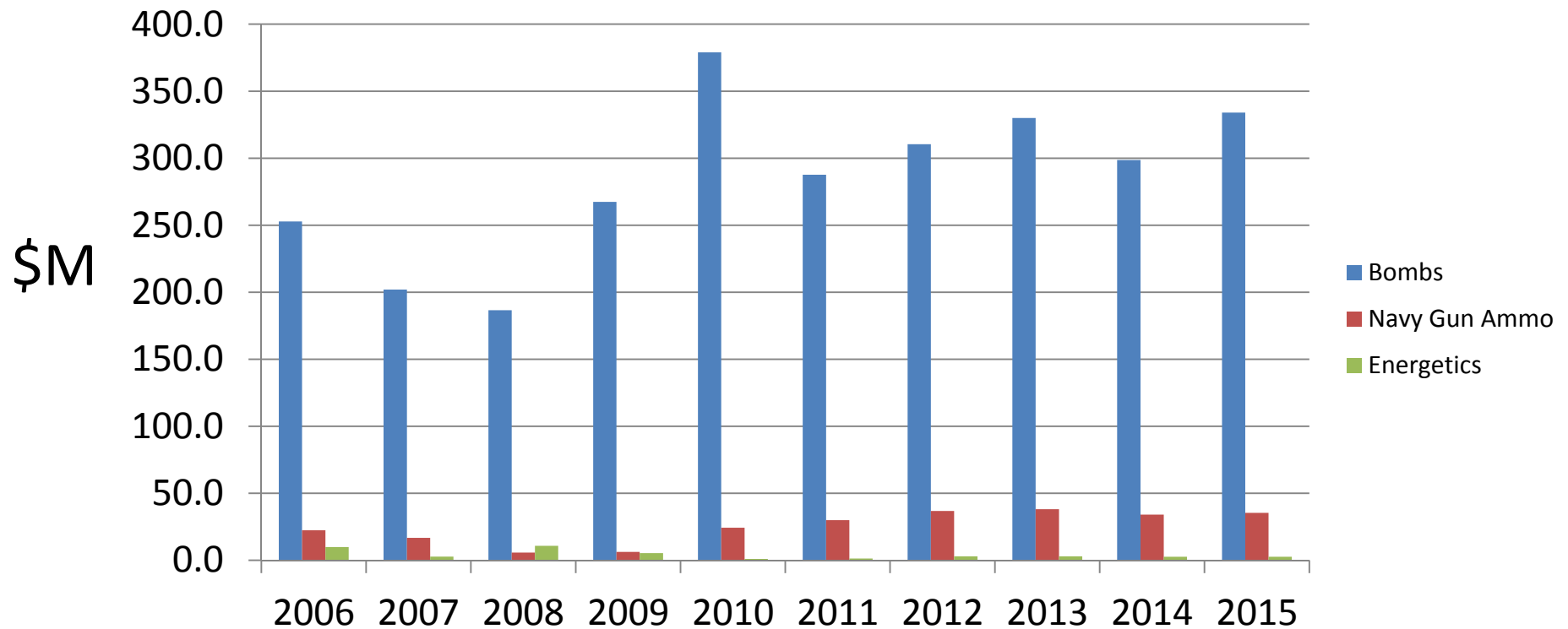


ENERGETICS (Quantities used in all ammo end items)





Bombs, Navy Gun Ammo and Energetics Funding Over Time





DoD Efficiencies

PD Joint Products Initiatives



- **Implement Best Value competition on most contracts**
 - Replace traditional non-competitive procurements on some items
 - Establish realistic manufacturing lead times to enable competition
 - Incentivize quality and production process improvement through technical factors
- **Structure contracts for 3-5 years, with ranged option quantities**
 - Achieve economy in both Government and Industry
 - Plan and prepare new contracts earlier, with more overlap with prior contracts
 - Reduce Procurement Lead Times in option years
- **Establish firm fixed prices; replace some cost-type contracts**
 - Incentivize efficiency and productivity
- **Award dual contracts where funded volume allows**
 - Alleviate Single Point Failures
- **Restrict most contracts to NTIB IAW Section 806**
- **Work with Service engineers and SMCA contractors to implement needed Tech Data Package updates/improvements**
 - Pay for engineering changes and take ownership in Government TDPs



Conclusion/Summary



- PD Joint Products is bringing intensified project management focus to Bombs and Navy Gun Ammo programs
- Integration of SMCA acquisition community and Other Service developers/configuration managers poses special challenges for implementing efficiencies through designs and acquisition strategies
- Goal is consistent, disciplined program management and contract execution yielding reliable, successful industry relationships on ammunition production contracts



Backup





PD JP Mission/Vision

*Manage SMCA acquisition of
assigned conventional ammunition
efficiently and effectively*



Munitions Executive Summit



4 Feb 2011

Presented by: COL Scott Turner
Project Manager for
Combat Ammunition Systems
973 724-2003, john.scott.turner@us.army.mil

FY10 Munitions Delivered

➤ Mortar

- ✓ 60mm – 234,786
- ✓ 81mm – 369,423
- ✓ 120mm – 59,641

➤ Artillery

- ✓ Artillery Projectiles – 382,000
- ✓ Artillery Fuzes – 21,453
- ✓ Energetics

- 60/81/120mm Mortar Ignition Cartridges - 1,470,988
- 60/81/120mm Mortar Propelling Charges - 2,779,616
- 155mm MACS M232A1 – 1,378,867

- Precision XM982 – 368

Approx \$551 Million Ammo Delivered

FY11 Munitions Planned Deliveries

➤ Mortar Rounds

- ✓ 60mm – 614,556
- ✓ 81mm – 354,109
- ✓ 120mm – 290,20

➤ Artillery Rounds

- ✓ 75mm - 76,550
- ✓ 105mm – 177,233
- ✓ 155mm - 190,646

➤ Precision

- ✓ XM982 Excalibur – 263 1a-1 rds and 845 1a-2 rds
- ✓ XM395 APMI - 2873



Approx \$550M in Ammo to be Delivered

155mm Excalibur XM982

Army/USMC Round Counts

	Army OIF	Army - OEF	Army - OEF - PACOM	USMC - OIF	USMC- OEF	Total
Delivered	76	462	9	13	466	1026
Fired	73	65	9	10	141	298
Unserviceable	3	3	0	3	11	20
Balance (On-Hand)	0	394	0	0	314	708



**Average Usage Rate
~30/month**

XM395 Accelerated Precision Mortar Initiative (APMI)

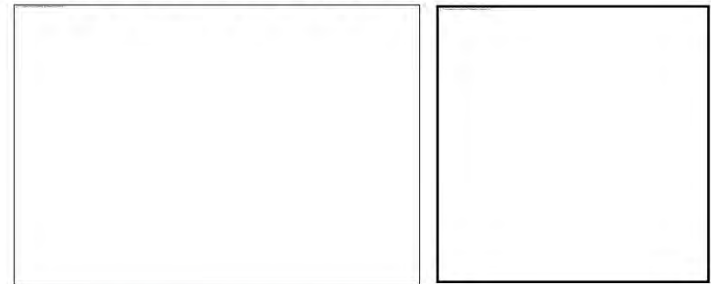
Requirement:

- Required Capability:
 - ✓ GPS Guidance
 - ✓ Accuracy: 10m CEP (T); 5m (O)
 - ✓ Maximum Range: 6.5km or greater
 - ✓ Reliability: .90 by UMR
 - ✓ Compatibility: All U.S. Army 120mm Mortar Systems
- Operational Need Statement (ONS #09-7722) for GPS guided 120mm mortar cartridge: HQDA G-3/5/7 validated on 8 Jan 2009; HQDA G3/5/7 Directed Requirement (16 Oct 2009)
- Revised ONS Quantity: 5,480 rounds; 156 Fuse Setters, validated by AR2B GOSC, 25 Mar 10
- Operational Assessment in theater will determine support for Program of Record (PoR) through Capabilities Development for Rapid Transition (CDRT) process

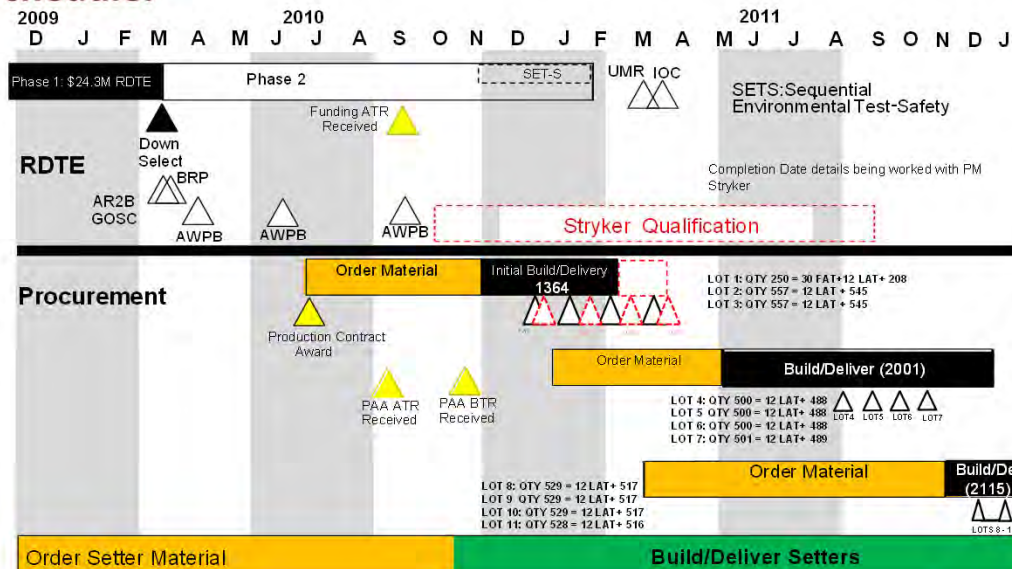


Description

APMI is a GPS-guided 120mm mortar munition that will provide maneuver battalion commanders with an organic precision indirect fire capability to neutralize enemy forces in complex terrain difficult to engage with low-angle fire.



Schedule:



Current Status/Schedule:

- CEP: 6.2
- Reliability: 94%
- Completed Government Qualification Testing and Production First Article Test: 29 Jan 2011
- Urgent Material Release: 1 Mar 2011
- Initial Operational Capability: 31 Mar 2011

Operational Evaluation will be Conducted from April to September and may Establish APMI POR



XM1156 Precision Guidance Kit (PGK)

Requirement:

Key Performance Parameters

Net Ready:

- Incorporated into Digital Fire Support Systems: AFATDS, M109A6 (Paladin), M777A2 (LW155), EPIAFS

Reliability:

- 0.92 (T), 0.97 (O)

Accuracy:

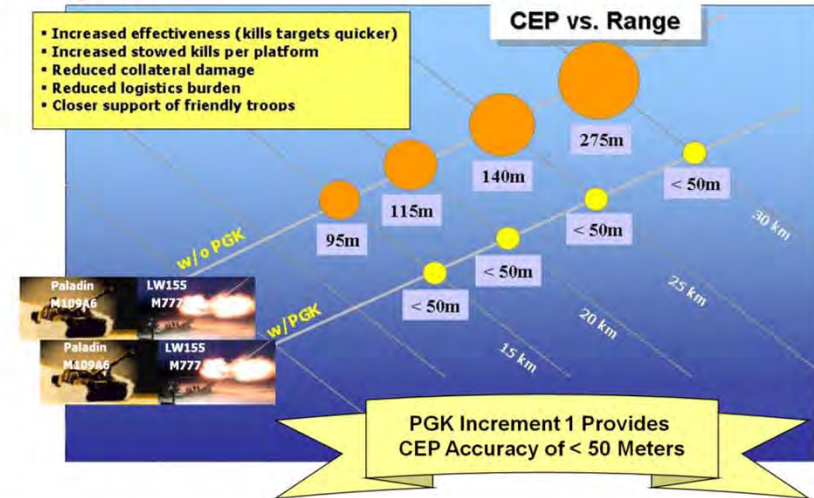
- ≤50m CEP (T); ≤30m CEP (O)

Attributes

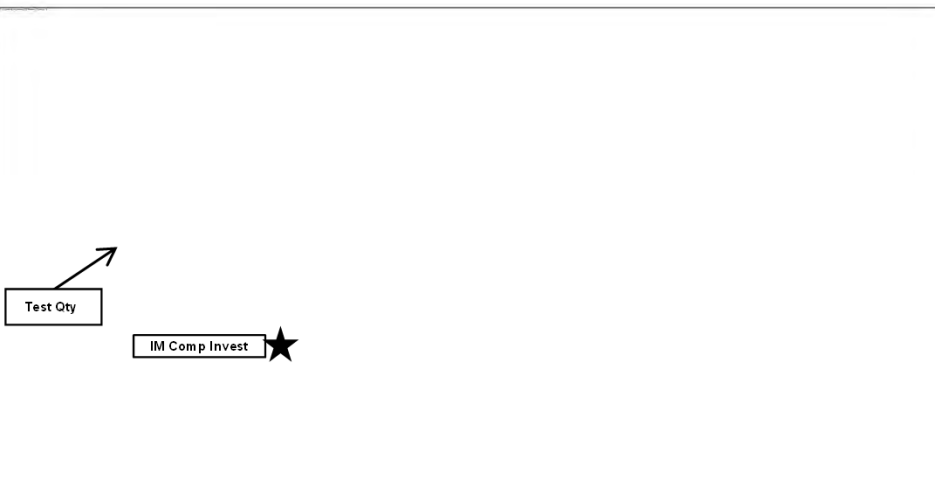
Munition / Platform Types:

- 155mm High Explosive Projectiles: M107, M795, M549/A1
- M109A6 (Paladin), M777A2 (LW155)

Description

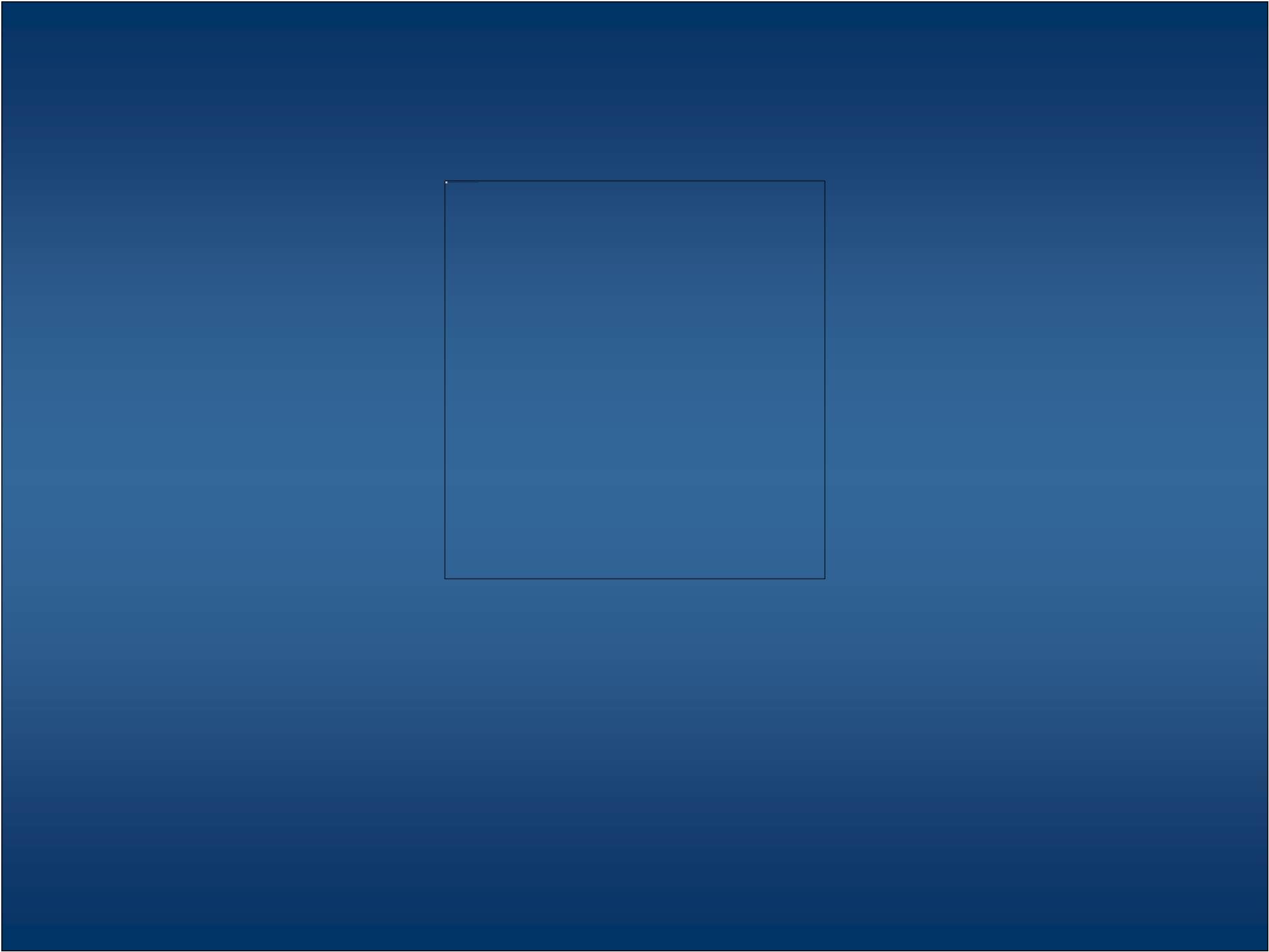


Schedule:



Issues/ Status:

- PGK Exceeding Accuracy KPP Threshold of 50 meter CEP
- PGK program re-baseline to meet 92% Reliability KPP by IOC (Based on Aug 2010 Reliability Test Results)
 - ✓ (Aug-Jan 2011) Failure Analysis and Course of action Recommendation
 - ✓ (21 Jan 2011) ASARC Approval of go-forward plan ADM
 - ✓ (Jan 2011) FFP - UCA Contract Mod with ATK
- Key Milestones
 - (1QFY13) MS C



FY11/12 Planned Acquisitions

➤ FY11

- ✓ M14 Cartridge Case, IDIQ Multiple Award
- ✓ PA55 and PA71A Fiber Containers and PA112 Fiber Assembly, SBSA, IDIQ Multiple Award
- ✓ HE LAP Artillery 105mm M927, PGU, M549A1, IDIQ Multiple Award
- ✓ 60mm/81mm/120mm Propellant Charges, IDIQ Multiple Award
- ✓ MACS LAP M231/M232A1 IDIQ Multiple Award
- ✓ MACS M31A2 Propellant, IDIQ Single Award
- ✓ MACS Combustible Cases (New Scope)
- ✓ FMU 153/B, IDIQ Single Award

➤ FY12

- ✓ 120mm HE, SMK, and FRPC MPTS
- ✓ 120mm ILLUM M930 and M983
- ✓ 155mm (M795) Metal Parts
- ✓ 105mm XM350 Propellant Charge LAP, XM60 Propellant for 105mm, XM133 Primer (Support M1E1)
- ✓ MOFA M782
- ✓ 105mm M1 Wood Boxes
- ✓ 155mm PA 179 Excalibur Packaging
- ✓ 105mm M1064/M314A3 New System Buy
- ✓ 105mm HE M1IM Project LAP

2011 NDIA Munitions Executive Summit

PM Panel

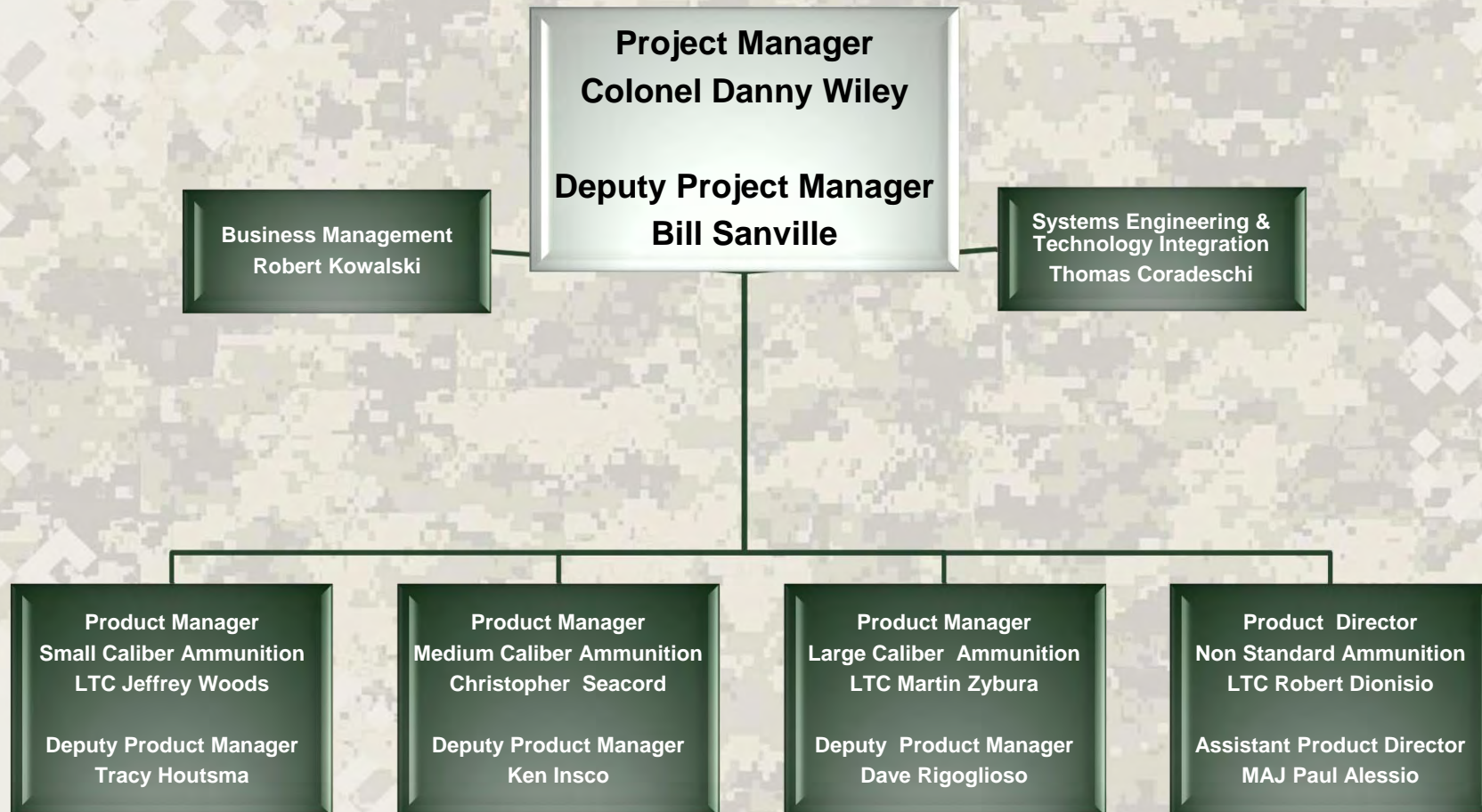


COL Danny Wiley
Project Manager

Feb 2011

*Equipping US and Allied Warfighters with World
Class Direct Fire Combat and Training Ammunition
Through Strategic Life Cycle Management*

Project Manager Maneuver Ammunition Systems



Support to the Warfighter



- **New Rounds/Technologies Fielded in FY10**
 - **5.56mm Enhanced Performance Round (EPR)**
 - Performance Improvement
 - **.300 WinMag**
 - New Capability
 - **7.62mm Short Range Training Ammunition (SRTA)**
 - New Capability
 - **40mm M992 IR Illuminating**
 - New Capability
- **New Rounds/Technologies in FY11/12**
 - **5.56mm EPR Tracer and 4/1 for M249**
 - Performance Improvement
 - **5.56mm SRTA**
 - New Capability
 - **5.56mm Commercial Pack**
 - Performance Improvement/Lower Cost
 - **7.62mm M80A1**
 - Performance Improvement
 - **30mm M789 Improved Propellant**
 - Safety/Performance Improvement
 - **120mm Advanced Case System**
 - Safety Improvement

Deliveries:

Small Caliber	1,479,046,871
Medium Caliber	13,772,204
40mm	15,835,457
Large Caliber	135,857
NSA	<u>91,487,000</u>
Total	1,600,278,277



Acquisition Challenges



- **Affordability Mandates**
 - Tradeoff Analysis – Required for Milestones
- **Acquiring Data Rights to Sustain Competition**
- **Promoting Competition During Development**
- **Portfolio Management to Reduce Redundancy**

Challenge To Accomplish On Time and on Budget



S&T Priorities



Small Caliber
(Enable dismount fight)

- **Lightweight Cases / Ammo**
- **Day / Night Low-Observable Trace**
- **Advanced Armor-Piercing**

40mm Grenade
(Increase training realism)

- **Non-Dud Producing Technologies**

Large Caliber
(Maintain Overmatch)

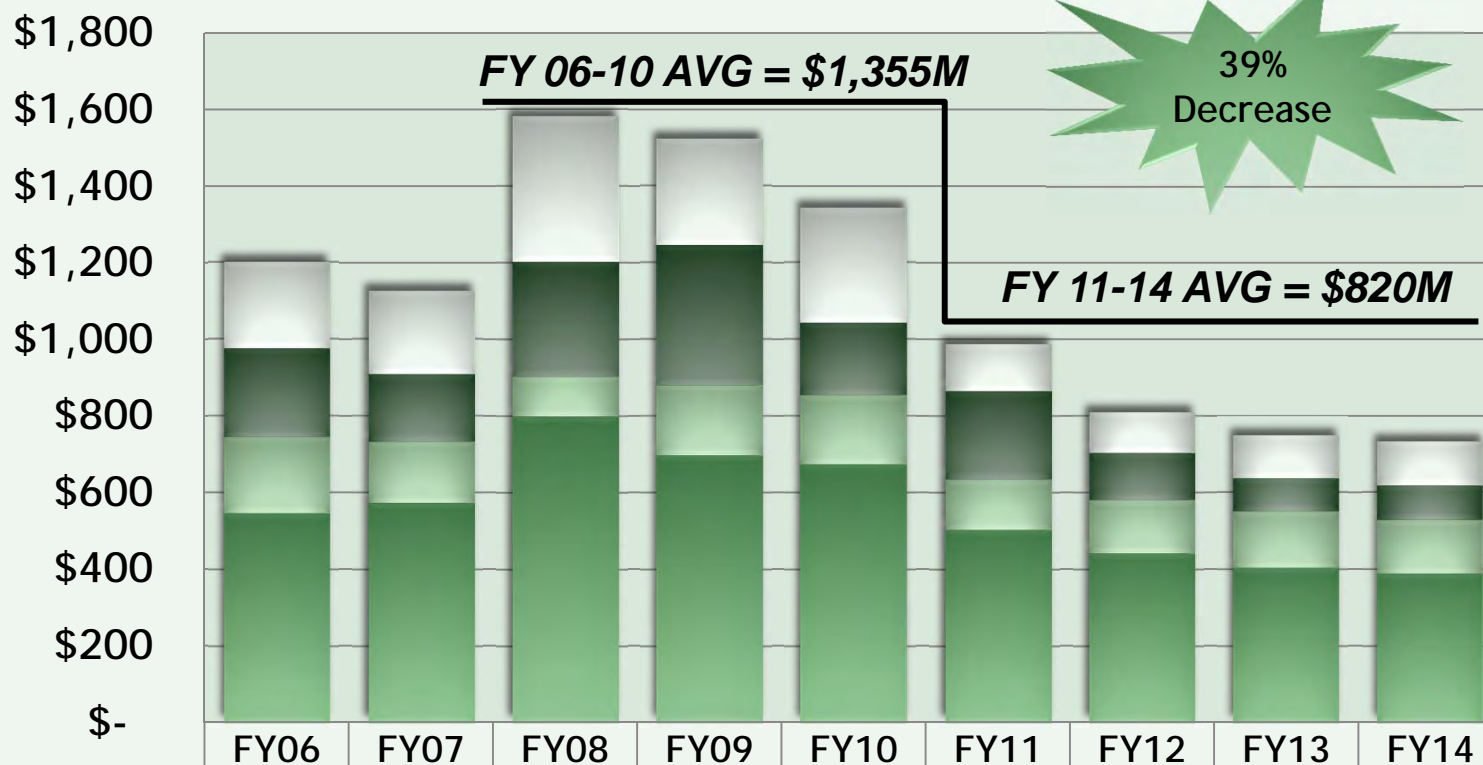
- **DU Replacement Technologies**



Conventional Funding Over Time



Program Dollars (\$M)



PM-MAS Business Opportunities



FY11 Major Competitions

Small Caliber Second Source

7.62mm Armor Piercing, M993

120mm Tank Training, M865 and M1002

Non Standard Ammunition – BPAs

FY12 Major Competitions

Lake City Army Ammunition Plant – award planned
1 Oct 12

30mm PGU-15 and PGU-13

25mm M910, M793 and PGU-23
30mm M788

Misc . Competitions

- 5.56mm AP
- 5.56mm M1037
- 7.62mm SRTA
- 9mm Ball
- 30mm Mk239
- 105mm M1040





2011 Munitions Executive Summit

NDIA

Industrial Committee of Ammunition Producers

Michael S. Wilson

February 3, 2011

ICAP

NDIA
National Defense Industrial Association



Industrial Committee of Ammunition Producers (ICAP)

ICAP Mission:

To serve as a forum for interested NDIA members and other concerned parties to review and discuss issues, policies, and procedures in the ammunition arena and to examine industry and government initiatives relating to the ammunition life cycle.

95 Meetings Conducted Since Formation

A horizontal banner at the bottom of the slide. The left portion has a dark red background with the word "ICAP" in large, white, bold, sans-serif capital letters. The right portion features a close-up photograph of several rows of ammunition cartridges, likely 5.56mm NATO rounds, arranged in a fan-like pattern.

ICAP

The logo for the National Defense Industrial Association (NDIA) features the letters "NDIA" in a large, bold, white font. Below the letters, the full name "National Defense Industrial Association" is written in a smaller, white font, underlined.

NDIA
National Defense Industrial Association

2010-2011 ICAP Membership

ICAP Government Chairs : BG Jonathan Maddux – PEO Ammunition
BG Gustav Perna – CG Joint Munitions Command

ICAP Industry Chair : Michael S. Wilson

NDIA : MG Barry D. Bates USA (Ret); Tim Bagniefski, Michael Dauth

US Government :

- Mr. Jim Shields, Deputy PEO, Ammunition
- Mr. Jyuji Hewitt, Deputy CG, Joint Munitions Command
- Patricia Huber - Joint Munitions Command
- Col. Jeff Wilson, PM - Joint Services
- Col Scott Turner, PM - Combat Ammunition Systems
- Col Danny Wiley, PM - Maneuver Ammunition Systems
- Col Raymond Nulk, PM - Close Combat Systems
- Mr. Mike Hutchinson, Rock Island Contracting Center
- Pam DeMaught - Joint Munitions Command
- Mr. Matthew Zimmermann, PM - Joint Services

MIBTF : Richard Palaschak – Director of Operations

ICAP

NDIA
National Defense Industrial Association

ICAP Sector Representation

Demilitarization	David Fincher, Explo Systems
Fuzes/Timers	Kenneth Kelly, Kaman Aerospace
GOCOs	Karen Davies, ATK
Large Caliber/Bombs	Dean Bartles, GD-OTS
Propellants & Explosives	Paul Heidenreich, Esterline
Pyrotechnics	Rick Gardner, Chemring
Small/Medium Caliber	Dan Olsen, ATK
Systems, Electronics & Sensors	Rodger Elkins, Raytheon
Warheads & Rockets	Tom Rudy, American Ordnance

2010 Activities / Topics

- **Strategic Outlook – Munitions Industrial Base**
- **Global Competitiveness of NTIB**
- **OSD Efficiency and Cost Reduction Initiatives**
- **AMC Quality of Work Environment Initiative (QWE)**
- **Procurement Timeliness / Contracting Delays**
- **Proposal Pricing Deficiencies**
- **GOCO Cost Drivers**
- **Intellectual Property / Data Rights**

2011 Focus Areas

- **OSD Efficiency and Cost Reduction**
- **InitiativesMunitions Funding Profile – POM 12**
 - *Strategic outlook of US Munitions Enterprise*
- **FMS Case Processing**
- **USG – Industry Partnering**
- **Industry / GOCO QWE efforts**
- **Procurement & Contracting Timelines**
- **IBAT / Minimum Sustaining Rates**

Industrial Committee of Ammunition Producers

- **ICAP is the model forum for effective USG-Industry dialogue & partnering**
- **Get involved thru Sector Leaders – be heard**
- **ICAP Website:**
 - *NDIA.org*
 - *Divisions – Industrial Working Groups – ICAP*
 - *Meeting Minutes, Sector Reports, Action Item Report Outs*
 - *Sector Leaders – contact details*



PM Acquisition Panel: PD Joint Services

**Presented
at the**

Munitions Executive Summit

4 Feb 2011

Presented By:
Matthew Zimmerman
Deputy PD Joint Services
PEO Ammunition
Picatinny Arsenal, NJ 07806
973-724-7626
matthew.zimmerman1@us.army.mil



PD Joint Services Five Primary Responsibilities



PROJECT DIRECTOR - COL JEFF WILSON

DEPUTY PROJECT DIRECTOR - MR. MATT ZIMMERMAN

PROJECT DIRECTOR JOINT SERVICES

SINGLE MANAGER CONVENTIONAL AMMUNITION (SMCA) RESPONSIBILITIES:

- Coordinate and integrate the DoD's SMCA activities on behalf of PEO Ammunition
- Manage transition of Services' conventional ammo items into the SMCA account
- Annual Survey measures performance

Cathy Heslin (Business Division Chief)

Ian Valentine & Doug Lincoln (SMCA & Service Integration)



AMMUNITION INDUSTRIAL BASE:

- Manage Ammunition Industrial Base modernization
- Section 806 implementation & Single Point Failure (SPF) Program
- Execute Armament Retooling & Manufacturing Support (ARMS) efforts
- Formulate Ammunition Industrial Base strategic planning

Mr. Kwok Cheung - Industrial Base Division Chief

PRODUCT MANAGER DEMILITARIZATION:

- Demil of all DoD conventional ammunition
- Demil research & development projects
- Ammunition Peculiar Equipment (APE)

Mr. Larry Gibbs - Product Manager Demil

TECHNOLOGY AND PROTOTYPING:

- Technology solutions for the Ammo Industrial Base addressing:
 - Single Points of Failure
 - Cost reduction efforts
 - Production efficiencies

Ms. Kerry Henry - Technology & Prototyping Division Chief

AMMUNITION LOGISTICS:

- Manage US Army ammunition logistics R&D efforts
- Develop/synchronize joint ammunition logistics programs with other Services

Mr. Al Galonski - Ammo Logistics Division Chief



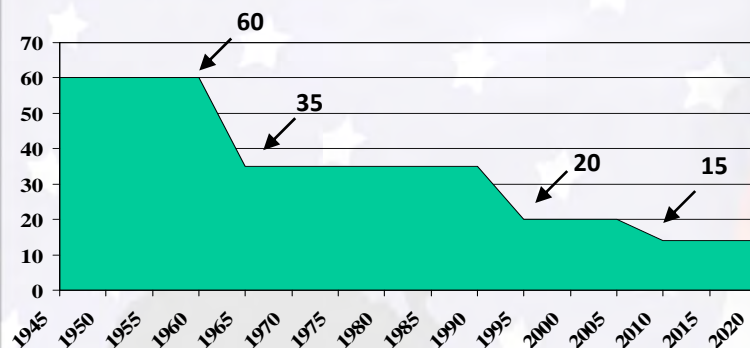


Ammunition Industrial Base Overview

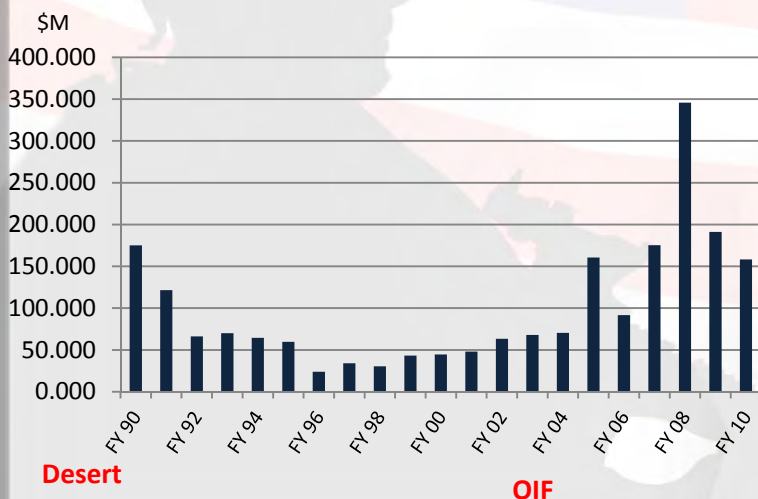


Historical Background

Army Ammo Organic Facilities Over Time



Cyclical GOCO Modernization Funding



Desert
Storm

OIF

PAA- Procurement of Ammunition, Army
MCA- Military Construction, Army
CIP- Capital Investment Program

Post 05 BRAC Industrial Base

- **Commercial Suppliers: Principal Source of Ammunition:**
 - 200+ Key Commercial Sources
- **Supply Chain State:**
 - 33 Critical Single Point Failures
 - 19 Mitigated
- **GOCO Army Ammunition Plants (AAPs):**
 - 6 AAPs (Radford, Lake City, Holston, Scranton, Iowa, Milan,)
 - 1 Facility @ Rock Island Arsenal (Riverbank AAP BRAC Capability)
 - **Modernization Funded via PAA**
- **GOGO Ammunition Installations**
 - 3 Army Multi-Mission Installations (Production and Logistics): Crane, McAlester, Pine Bluff
 - **Modernization Funded via MILCON and CIP**
- **5 Logistics/Depots: Tooele, Hawthorne (GOCO), Blue Grass, Anniston Munitions Center (MC), Letterkenny MC**

Typical Annual Funding Distribution (Ammo)

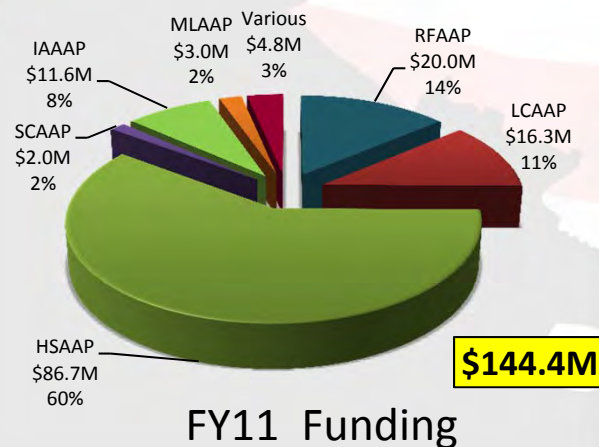




GOCO AAP Capability and Modernization Funding

PROJECT DIRECTOR JOINT SERVICES

GOCO AAP Capability and Modernization Funding			
GOCO Facility	Core Processes	FY03-10 Funding Totals (\$M) Past Investment	FY11-15 Critical Requirements (\$M)
Radford (VA)	Propellant Manufacturing (Rocket, Artillery, Tank, Med Cal; NC for all Propellants)	\$420.003	\$327.110
Lake City (MO)	Small Caliber	\$301.242	\$34.153
Holston (TN)	Explosives - HMX, RDX	\$287.420	\$202.548
Scranton (PA)	Large Caliber Metal Parts-Artillery/Mortars	\$58.664	\$35.689
Iowa (IA)	Load, Assemble & Pack (LAP) - Tank/Artillery, Warheads	\$95.032	\$45.339
Milan (TN)	LAP - Mortars, 40mm Cartridges; C-4 Extrusion	\$20.362	\$2.972
Engineering Support	Engineering Support/ATEC	\$26.807	\$22.284
TOTAL		\$1,209.530	\$670.095



(\$M)	FY10	FY11	FY12	FY13	FY14	FY15	TOTAL
FY2011 PresBud - Feb 2010	158.3	144.4	132.4	123.4	134.0	135.9	828.4

159 Ongoing Modernization Projects



Modernization in Support of the Warfighter

Radford Army Ammunition Plant Nitric Acid Concentrator/Sulfuric Acid Concentrator (\$110M project)

Benefits

- The NAC/SAC Concentrator provides strong nitric acid (SNA) and strong sulfuric acid (SSA) for the production of Nitrocellulose (NC) - a critical component for many munitions
- Minimizes the likelihood of production interruptions by the replacement of the previous 30 year old NAC/SAC
- Reduces cost of operations: less labor, less energy consumption, less required maintenance



Project completed Sep 29, 2010

Holston Army Ammunition Plant Area A to B Consolidation (\$142M project)

Benefits

- Modernizes the production of critical Acetic Acid and Acetic Anhydride
- Eliminates security/safety/environmental risks associated with the current 7 mile long pipeline and rail
- Eliminates current challenges of obtaining replacement parts for facility/equipment built and installed during WWII



Area A (approx. 112 acres)



Conceptual design of Area B after consolidation (approx. 10 acres)

Project Initiated May 2009 with completion scheduled by Dec 2013

Scranton Army Ammunition Plant Rotary Furnace Modernization (\$4M project)

Benefits

- The modernized rotary furnace will maintain critical production capability of large-caliber projectile metal parts (M795, M107, M804, M485, M110)
- Incorporates modernized, automated and highly efficient process, utilizing proven advanced technologies
- Reduces cost of operations: less labor, less energy consumption, less required maintenance and overcomes part obsolescence issues



Rotary Furnace



Robotic Arm Being Installed

Lake City Army Ammunition Plant Occupational Safety & Health Administration Machine Guarding (Phase I of project = \$3M)

Benefits

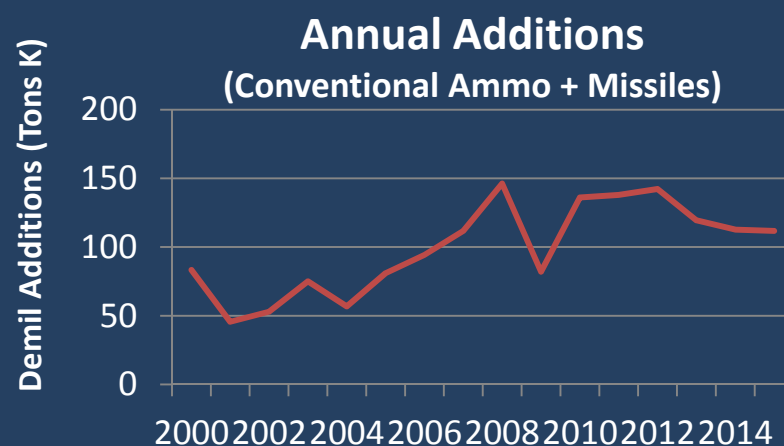
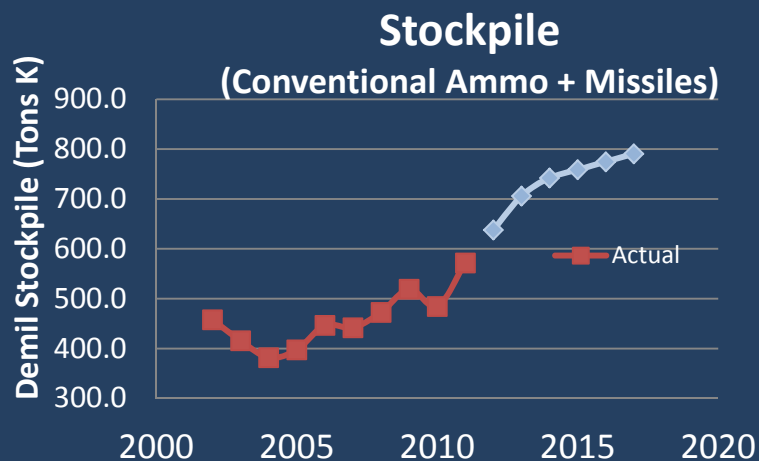
- Brings Small Caliber machinery and machine guarding into compliance with current OSHA regulations
- Reduce the likelihood of production injuries
- Modernize critical legacy production equipment to comply with current regulations and laws



Phase I complete - 200 Machines modernized to meet OSHA compliance



Demilitarization Status



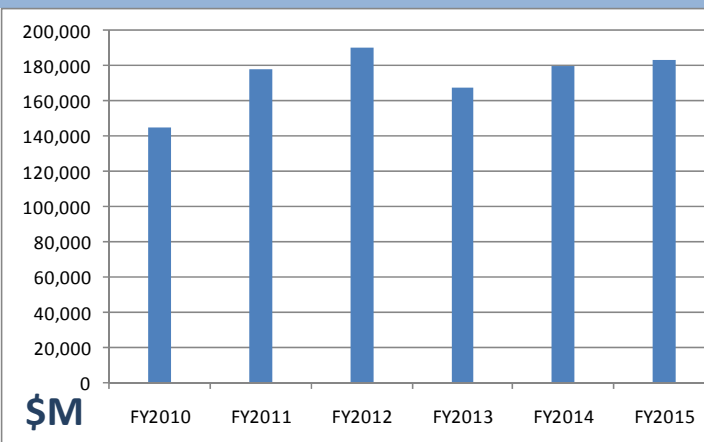
Addition Influences

- Cluster Munitions / Landmines, WRSA-K, Aging Cold War Stocks, PIPs

Reversing the Trend

- Maximum use of low cost facilities / processes
- Establish production based thinking
- Defend against rising additions
- Reduce secondary cost expenditures (transportation, support, etc)
- Average demil over last five years is 58K tons

Demil Funding (Pres Bud 2011)





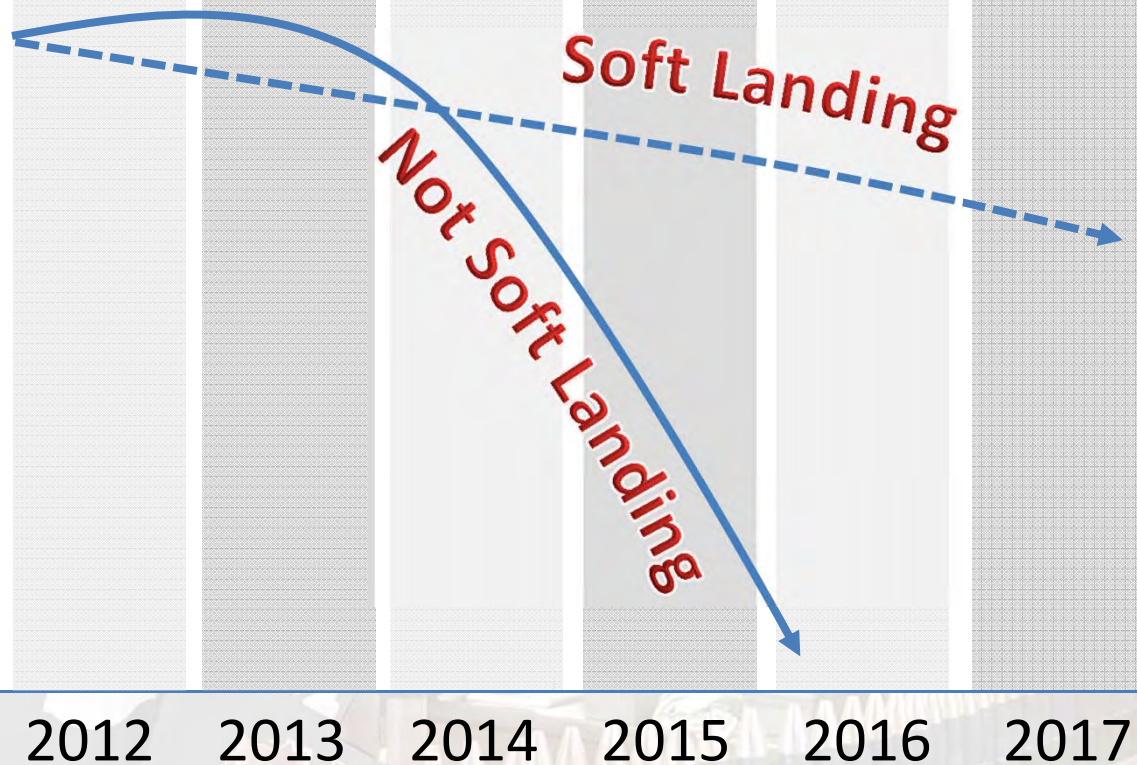
Industrial Base Challenge



PROJECT DIRECTOR JOINT SERVICES



Ammo Requirements





Challenges



PROJECT DIRECTOR JOINT SERVICES

- Implementing high volume of AAP modernization projects without disrupting production
- Identifying innovative Demil Solutions to increase through-put
- Supporting analysis of Anniston Chemical Destruction Facility Reuse Initiative for conventional ammunition demilitarization
- Identify ways to improve delivery of ammunition (especially packaging solutions) to our customers
- Managing supply chain for a “soft landing”



Backup



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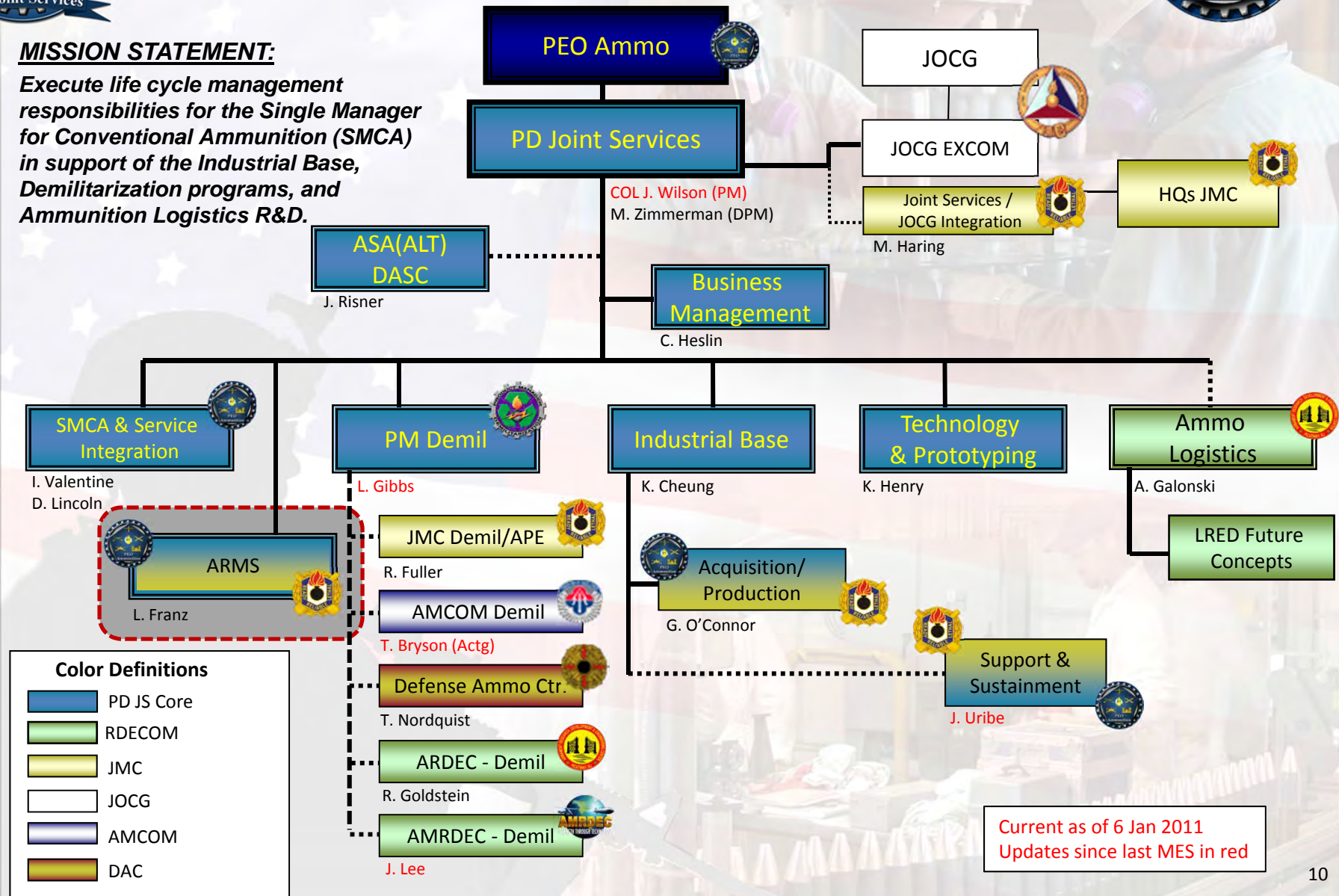


Joint Services Organization Chart

PROJECT DIRECTOR JOINT SERVICES

MISSION STATEMENT:

Execute life cycle management responsibilities for the Single Manager for Conventional Ammunition (SMCA) in support of the Industrial Base, Demilitarization programs, and Ammunition Logistics R&D.



Current as of 6 Jan 2011
Updates since last MES in red